

DECEMBER, 1959



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# AMATEUR RADIO

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**EDITORIAL**

## Christmas Greetings To You All

On behalf of the Federal Executive and Federal Council of the Wireless Institute of Australia, I extend to all Amateurs, Short Wave Listeners and all those interested in Amateur Radio, hearty good wishes for the Christmas Season.

Unlike most countries, Christmas in Australia is a time of warm weather and gay, carefree holiday spirit spent in the open air; a break from the past year's work and problems when many Amateurs give their spare time to finishing off those projects which it wasn't possible to complete during all those working weeks now behind them; a holiday period before commencing a new year.

Whatever you may be doing, wherever you may be, I wish you a happy festive season from my colleagues and myself, and I trust you will find those spare hours off from your other activities to devote to your hobby of Amateur Radio.

1959 has witnessed the conclusion of a milestone in the history of Amateur Radio in Australia . . . the International Telecommunications Union Administrative Radio Conference in Geneva for which you, as Amateurs, subscribed your donation to send your own representative with the official Australian Delegation. The final outcome of this mammoth conference will not be known for

some time yet, although by the time this issue of "Amateur Radio" goes to press you will probably have had a final report from John Moyle, VK2JU, and in the new year you will have the opportunity of hearing him personally address you at your Divisional meeting. You will be advised of the date as soon as practicable and I would ask each and every one of you to set that date aside as a "must".

In the years ahead, we must all actively plan to use the bands we have allocated expressly for our use. If we don't we shall have a hard fight to retain them for the demand on frequencies in the ever widening sphere of communications and the jet age into which we are now moving is difficult to appreciate. But it is huge and a growing danger to our very existence and a matter to which we must on no account turn a deaf ear and a blind eye.

I also extend, on behalf of the Federal Council and Federal Executive, festive greetings to our advertisers, without whose support "Amateur Radio" could not be published. As our Institute membership grows, so will the Institute grow; and as the Institute grows, so, I trust, will the support of our advertisers.

A Very Happy Christmas to you all.

G. MAXWELL HULL,  
Federal President, W.I.A.

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# A Multiband Antenna System for the Newcomer

## COMBINATION ANTENNA COUPLER AND MATCHING INDICATOR

LEWIS G. McCOY, WHICP

If you have been searching for a multiband antenna system, this article should be of considerable interest to you. We will describe an antenna coupler for the 3.5 through 28 Mc. bands that has a built-in standing-wave ratio bridge. The s.w.r. bridge can be used for matching and as an output indicator. Also included in the article is the description of a multiband antenna. Whether you are a newcomer or an old-hand, this may be exactly what you have been looking for.

You may have read or heard that an antenna coupler is an unnecessary item in the ham station. Before going any further let's see what a coupler is and what it can do for you.

### WHY AN ANTENNA COUPLER?

Many newcomers to Amateur Radio elect to use antenna systems that do not require antenna couplers. Such systems as multiple dipoles, trap-type antennae, and the off-centre-fed type have become quite popular. The reason for the popularity of these systems is that they can normally be attached directly to the transmitter (with a feed line, of course), and be made to work. When an antenna system is used that requires a coupler, the coupler must be adjusted in order for the system to work. As the systems mentioned above do not require couplers, it can be said that they offer "operating convenience." However, to mix a metaphor, you cannot have your cake and get it for nothing! There are many excellent reasons why a coupler should be used and they far outweigh any operating conveniences of the non-coupler type installation.

First, an antenna coupler usually eliminates the harmonic problem. We are speaking now of the common problem of second-harmonic radiation (7.4 Mc.) from 3.7 Mc. operation.

In many instances the use of a coupler will eliminate the harmonic t.v.i. problem. If sufficient harmonic attenuation is not achieved with the coupler, a low-pass filter must be used; here again a coupler plays a very important role.

A low-pass filter is designed for a particular impedance of coaxial line, usually 50 or 75 ohms. This line must be reasonably flat (have a low standing wave ratio), in order to prevent damage to the filter components. It is difficult to keep the s.w.r. low on feed lines used with the types of antennae mentioned earlier, at least on all the Amateur bands and frequencies. However, it is a very simple matter to take care of this problem when using a coupler. The normal procedure is to connect the transmitter to the coupler via a short length of coax line. By adjusting the coupler the coax line can be kept perfectly flat on any frequency within the Amateur bands. The ideal place to install the filter is in this length of line.

In many instances, it may become difficult or impossible to couple power from the transmitter to the antenna because the coupling circuit doesn't have enough range. This deficiency can be eliminated by the use of an antenna coupler. With the system described here it is possible to adjust the coupler so that the transmitter is always working into the best load for its coupling circuits.

The antenna system we will describe uses open-wire feeders and here is another advantage in using a coupler. Of all the types of lines used by Amateurs, open-wire feeders have by far the least loss. Also, many other types of lines can be affected by moisture so that their characteristics change. Open wire feeders are not affected by moisture, at least not as much as some other lines.



Two stentile pillars are used to support the coil on the chassis. The bottom of the coil is high enough to clear the rotor of C2 when it is open. Sensitivity control R2 is mounted on the panel below MA1.

All too many Amateurs think of an antenna coupler only in terms of transmitting. By installing the antenna change-over relay or switch between the transmitter and coupler, the latter can be used on the receiver. If you don't think this can be a big help just ask any Amateur who uses such a set-up. The coupler provides, in many cases, additional selectivity for the receiver. Strong commercial signals outside the Ham bands have a nasty habit of getting into the receiver, causing image troubles or cross modulation. A coupler helps to reduce this problem.

Before getting into the actual construction of the coupler, let's take up one more point that the newcomer may not be familiar with—series or parallel tuned feed lines. The main purpose of a coupler is just what the name implies, to couple the power from the transmitter to the antenna feed line. The end of the feed line that is attached to the coupler presents a load to the

coupler. With a high s.w.r. whether this load is high or low impedance depends on the electrical length of the feed line and antenna. If it is low it is easy to couple power from the transmitter if a series-tuned circuit is used in the coupler. When the load is a high impedance, parallel tuning should be used. We'll show you how to design your antenna and tell you what type of tuning is required in a moment, but first let's take a look at the coupler.

### THE ANTENNA COUPLER

At first glance, Fig. 1, the circuit of the antenna coupler, may appear complicated. However, don't be scared away; it is actually quite simple. The method of changing from series to parallel tuning while maintaining coupling at the centre of the antenna coil is a novel one cooked up by WIDX. As you will find when you read the section of the article on the antenna, the use of series or parallel tuning will depend on the antenna and feeder lengths.

In order to show how the coupler is used for series or parallel connections, we have drawn two simple circuits in Fig. 1, B3 and C. For series tuning, the feed line is attached to terminals 1 and 2. This splits the antenna coil into two equal parts and puts them in series with the line. When parallel tuning is required terminals 1 and 2 are shorted with a jumper and the feed line is connected to 13 and 14.

Band-changing the coupler is accomplished by shorting out portions of the coils L2 and L3. The taps and leads from the coil are wired to pin packs that can be connected together with shorting jumpers. Normally, the unused portion of the coil should be jumped with the shortest possible line. However, no ill effects were apparent in testing and using the coupler as shown. We had considered a switch for making the coil changes but a suitable switch, one that would fit the requirements of voltage breakdown and mechanical layout, was impossible to find—at least, at prices we were willing to pay. The pin jacks and plugs cost only a few cents each.

The coupler as described will easily handle the Novice 75-watt power limit. Any readers using transmitters in the popular 150-watt class can alter the coupler for this power level by using a variable capacitor with adequate voltage rating for C2. The coil stock used for L1, L2 and L3 should safely handle about 300 watts without overheating so the controlling factor is the r.f. voltage rating of C2.

The s.w.r. bridge utilises a length of RG-58/U to house the pickup wire of the bridge.<sup>1</sup> A double-pole switch is required to switch the pickup lead ends so that either forward or reflected power can be fed to the indicating circuit.

<sup>1</sup> Hence, "The 'Mickey-Match,'" "QST," Nov. 1958; "A.R.," July 1959.



## CONSTRUCTION

The unit shown here was built on a 2 x 7 x 9 inch aluminum chassis which is housed in a cabinet. If the reader elects to use a bigger capacitor (greater plate spacing) for C2 a larger chassis than the one specified would be more suitable. Layout of the components is not critical but it is a good idea to use the photographs as a guide.

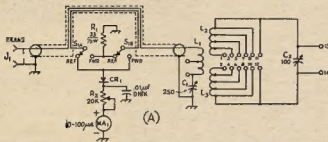


Fig. 1—(A) Circuit diagram of the antenna coupler and s.w.r. bridge. (B) Series tuning. (C) Parallel tuning.  
C1—250 pF. variable capacitor.  
C2—100 pF. variable capacitor.  
CR1—1N34A germanium diode.  
J1 Coaxial chassis receptacle.  
L1, L2, L3—See Fig. 2 and text.  
MA1—0-100 microammeter.  
R1—33 ohms, 1/2 watt, carbon.  
R2—20,000 ohm potentiometer.  
S1—D.P.D.T. "tone control type" switch.

Fig. 2 is a drawing of the three coils—L1, L2 and L3. These three coils are all part of a single length of B. & W. 3907-1 coil stock. This material is 2 inches in diameter, 10 turns per inch, No. 16 tinned wire. Before attempting to make the coils for the coupler, study Fig. 2 so that you are completely familiar with the drawing. With a ruler measure off 68 turns (6-13/16 inches) and cut this piece from the original stock. A hacksaw is a good tool for cutting the stock support bars. Unwind one turn from each end of the piece.

This will leave a 66-turn coil. Count in from the end of the coil and cut the wire at the 26 1/2 turn. Do this at each side. We used a pair of side cutters to make the cuts and slightly bent the adjoining turns away from the cutting point in order to get at the wire. Unwind a half turn from these points and this will leave you with three separate coils, all on the same support bars. Refer to Fig. 2 for the tap points. You will find that if you bend the wires adjacent to the tap points in toward the axis of the coil you'll have plenty of room to solder the tap leads onto the coil.

The link, L1, is too large for 14, 21 and 28 Mc., so part of it must be shorted out when using these bands. Two soldering lugs should be soldered to the 1st and 6th turns of the link counting from the C1 end. The lugs are mounted at the top of the coil and bent so their ends are close together. An alligator clip can be used to short the two lugs. Use a copper clip as iron tends to heat up when used in r.f. power circuits. Incidentally, this is an important point to remember when doing any transmitter construction work involving r.f. circuits. Iron or steel will heat up and actually steal power from the circuits.

Use nonmagnetic hardware for mechanical connections wherever possible.

Two statite standoff insulators, 1/2 x 1/2 inch are used to support the coil. Soldering lugs should be soldered to the first turn on each of the two outside coils. The lugs are then mounted on the standoffs (see Fig. 2).

Statite standoffs, 1/2 inch high should be used to mount C1 and C2 on the

material can be peeled off. A 14-inch length of No. 20 solid tinned wire, plastic insulation is used for the bridge pickup wire. Mark the braid on the coax 6 inches from one end and 4 inches from the other. Next, bunch the cable together and with a sharp pointed tool make a small opening in the braid at the marked points. Feed the pickup wire under the braid, in one opening and out the other. Stretch the braid out along the cable until about one inch of the pickup wire projects from each opening. Look at the bottom view of the coupler and you will see how the coax is coiled up so that the two pickup wire ends are close to switch contacts. Once we found the correct configuration, a short length of tinned wire was wrapped around the braid and soldered. This holds the assembly in place and makes it easier to handle.

The terminating resistor of the bridge, (R7) is a half-watt carbon 33-ohm unit. Be sure to use a carbon resistor, not wire-wound. A rubber grommet should be installed in the chassis top directly over the switch. This opening is for the lead from the 1N34A diode that goes to R2. When soldering the diode leads hold the wire with a pair of long-nose pliers between the body of the diode and the point being soldered. This will conduct the heat away from the diode, thereby preventing damage to the unit. The sensitivity control, R2, should be mounted below the meter.

## THE ANTENNA SYSTEM

Before discussing adjustment procedures let's take a look at the antenna system. There are a few simple rules that should be followed (if possible) when installing an antenna. Try and get the antenna as high as possible. Also, keep it clear of nearby objects. In other words, don't run it alongside rain gutters or through branches. Dress the feed line away from the antenna at right angles, or as near so as possible. Many Amateurs bring their feed line straight down from the antenna to a post or support and then into the shack.

However, if you cannot follow the above rules, it doesn't mean an antenna won't work. For example, if you are cramped for space you can drop the ends of the antenna down in order to increase the length. If the antenna must run near metal objects don't scrap your plans. Put the antenna up and try it; you may be pleasantly surprised.

How long should the antenna be? The answer to this question depends primarily on the lowest frequency band

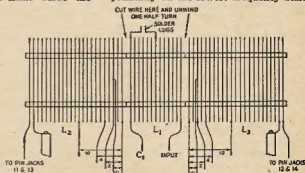
chassis. Both the rotor and stator of C2 must be insulated from the chassis and cabinet panel. An insulated coupling should be used on the rotor shaft. A statite through-chassis insulator is used for the input connection to bring the lead up to C1.

The coil taps and ends (terminals 1 through 14) are brought below chassis top through four rubber grommets, two 1/2 and two 1/4 inch. Sockets for terminals mount in 1/2 inch holes and are held in place by retaining rings. A simple method for mounting a socket is to place it in the hole, slip the retaining ring over the end and then use a short piece of 1/2 inch diameter pipe to force the retaining ring over the socket. Six plugs are needed for the shorting plugs. The wires for the two longer shorting lines are 3 inches long and the short one is 2 inches long.

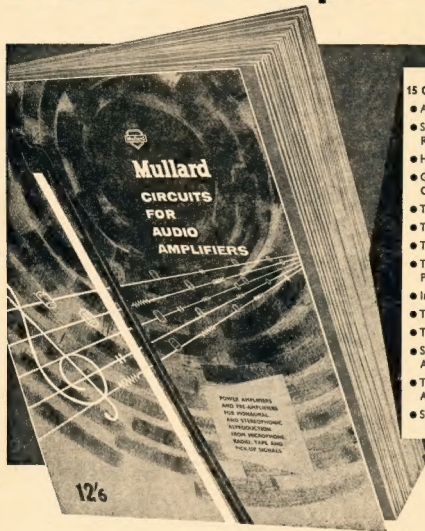
## MATCHING INDICATOR DETAILS

A 24 inch length of RG-58/U is needed for the s.w.r. bridge circuit. The first step is to remove the vinyl covering from the cable. If you score the covering with a knife blade the

Fig. 2—Drawing of the antenna and link coils, L1, L2 and L3. The numbers indicate the terminals to which the coil taps and leads are connected.



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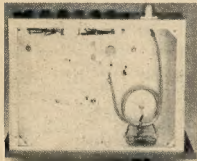
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A common problem is finding enough space for the antenna, the average city lot being too small for a half-wave-length antenna on 3.5 Mc. As mentioned earlier, the antenna can be shorter than a half wave and still work. The feed line can be lengthened or shortened to make the system fit the formula.



This view shows the method for connecting the coax input line and pickup wire. The terminal jacks for the coil leads and taps are mounted along the rear chassis wall.

You can make your own open-wire feeders or use the t.v.-type open-wire line. Don't use solid-dielectric twin-lead for the feeders; this type of line is satisfactory for some types of feeders but not in tuned lines. You can use a short run of the transmitting type twin-lead to go from the coupler to the feed-through insulators on the wall of the shack. The insulated twin-lead will simplify your installation problems, but don't use any more than you have to. For the antenna, you can use No. 14 Copperweld or a similar solid-dielectric fence wire, makes good antenna material. Use soft-drawn wire in a home-made feed line.

## GETTING THE SYSTEM WORKING

Connect the coupler to the transmitter with a length of 52-ohm coax, either RG-58/U or RG-8/U. If you are using a low-pass filter it should be installed in this length of line. Also, the antenna relay should be inserted at this point. Attach the feed line to the coupler and make the connections for series or parallel as required. (See Table 1.) Set R2 in the indicator circuit at maximum resistance and switch S1 to re-

ected power. Tune up the transmitter and resonate the final amplifier for plate meter dip. If you have an output drive control it is a good idea to tune up with reduced output. Next, adjust C1 and C2 in the coupler for minimum reading on the a.c. meter. You will probably have to decrease the resistance of the potentiometer, R2, in order to get a reading. When C1 and C2 are adjusted for minimum reading (this is usually zero or close to it), switch S1 for forward power and set R2 for about half-scale meter reading. Now you can tune up the transmitter for full loading as indicated by your plate meter and the bridge meter. You may have to reduce the setting of R2 to keep the needle on scale. Incidentally, once your coupler is adjusted for the minimum readings or matched condition you don't have to change the potentiometer setting for particular frequency. All loading adjustments are made at the transmitter.

## TUNING INFORMATION

Parallel	Series
Connect feeders to 13 and 14, jumper 1 and 2.	Connect feeders to 1 and 2.

Short the following terminals with hummers:—

3.5 Mc.	—	—
7.0 Mc.	11 and 9	12 and 10
14.0 Mc.	11 and 7	12 and 8
21.0 Mc.	11 and 5	12 and 6
28.0 Mc.	11 and 3	12 and 4

Table 1.

Mark down the control settings of the coupler for this particular frequency and then proceed to the next higher band. Keep a record of the settings and it will be a simple matter to set the coupler up in a hurry.

If you should find that you cannot get a matched condition on some band, you may have to try different tap points. However, be sure to try both series and parallel tuning first.

If you are looking for additional information on antenna masts, how to support the antenna, construction of feed lines, and so forth, we suggest you study "The Radio Amateur's Handbook" and "The ARRL Antenna Book."



Fig. 3.—The length A should be more than a quarter wavelength at the lowest operating frequency. When you determine the length of A to half the distance, add a sufficient length of feed line (B) to equal a quarter wavelength or multiple thereof. For example, let's assume you can put up an antenna 80 feet long and you plan to operate on the 3.7 Mc. Novice band as the lowest frequency. From the formula:

$$\frac{246 \text{ divided by } 3.7 \text{ equals } 66.5 \text{ ft.}}{66.5 \text{ minus } 40 \text{ equals } 26.5 \text{ ft.}}$$

the feeder length, or  
2 multiplied by 65.5 equals 133  
133 minus 40 equals 93 ft.  
This can be carried out for greater feeder  
lengths, depending on the requirements of the  
installation.

## A SIMPLE SOVELCH CIRCUIT

V. KERR.\* VK4LK

**A** QUICK glance at the accompanying circuit diagram will soon recognise the "evergreen" clamp tube, so popular with pentode class C transmitter stages. For those who wish to try a squelch circuit in the output of an existing receiver, and not wishing to go to the complication of some squelch circuits, this particular layout will be the answer.

It has good sensitivity and works without complication. No claim is made for the originality of the idea, having been used in commercial equipment for many years. For the most satisfactory result a pentode first audio in your receiver is necessary, although it is possible to use the plate circuit of a triode first audio in a like manner with passable results.

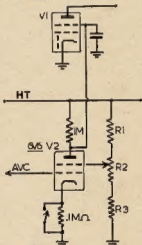


Fig. 1.—Squelch Circuit.

The use of a 6M5, 6AG7 or other similar tubes may be even better as bias requirements are lower and a.v.c. will cause squeal to open on a weaker signal.

V1—Pentode 2nd detector.  
V2—6Y6, 6AQ5, etc.  
R1—Two 47K ohm 1 watt resistors paralleled.  
R2—10K ohm wire wound pot.  
R3—Two 7K ohm 1 watt resistors paralleled.

The only adjustments necessary to set the squelch in operation after having wired it into the circuit, are to close the switch, shorting out or grounding the cathode circuit of the 6V6 (6AQ5, etc.) and adjust the 10,000 ohm potentiometer until the output of the receiver cuts off without any signal being received, that is, anything passing through the receiver from the front-end to generate an a.v.c. voltage.

As soon as a signal is tuned, a.v.c. voltage generated, the bias generated on the grid of the 6V6 will allow normal voltage on the screen of the second detector, with the audio output of the receiver as usual.

Opening the switch in the cathode circuit of the 6V6 will render the squelch inoperative, allowing normal audio stage function.

\* Dalrymple Road, Charters Towers, Qld.

# ELECTRICAL SHOCK: FACT AND FICTION\*

BY DANIEL P. PETERS

## DO YOU BELIEVE THAT . . .

Electricity kills by burning its victims to death?

Small currents are less harmful than large ones?

Low voltages are not lethal?

There are no harmful after-effects if you survive?

If so, here is the shocking truth!

ANY man on the street can probably supply you with the information that an electrical shock can be lethal. However, surprisingly few people actually know how or why. For those who work in the presence of voltages and currents that may be harmful, ignorance of the true nature of shock is dangerous. Knowing what actually happens is the first step toward taking the proper precautions and, in the case of electrical shock, there are all too many misconceptions. For example:

**FICTION:** Electricity kills by burning its victims to death or "shorting" them out.

**FACT:** Medical records prove that electrical currents great enough to cause actual burning kill less often than do currents of much lower magnitude. The notion that an electrical current "shorts out" its victim in the way that lightning can short out an electrical circuit, while closer to the truth than the "burn" theory, is still misleading. Actually, electricity kills by overriding the control that the nervous system exercises over the body.

The human body has sometimes been compared to an automatic factory. Muscles are its motors. Master-minding the operation of these motors is that fabulously complicated calculator—the brain. This message centre sends instructions to the controlled parts of the body via an intricate electrochemical network we know as the nervous system. Doctors take advantage of the electrical nature of the nervous system with electrocardiographic and electroencephalographic equipment, which measure the small impulses associated with heart and brain, respectively.

If overridden by an outside current, the electrical impulses of the nervous system lose control of body functions. During brain surgery, for example, doctors have applied small potentials to various sections of the brain that have caused movements of limbs and induced mental images. Through such electrical prodding, much is being learned about the mysteries of the mind.

Not so helpful, however, are the uncontrolled currents that flow during electrical shock—currents that swamp out the signals going to various parts of the body. Particularly dangerous are such currents that enter the heart and respiratory centres. Thus, a key factor in death by electrical shock is

the path of the undesired current within the human body, as well as its magnitude.

Death following shock is generally caused by one of two direct effects: **ventricular fibrillation** or **respiratory-centre paralysis**.

To understand ventricular fibrillation, we should know a little about how the heart operates. Basically, it is a pump forcing blood through the body. Controlling the heart muscles is a minute, electric current occurring periodically in the right auricle of that organ. If the conduction system of the heart is disturbed, say by an outside electric current, the muscles respond in a haphazard fashion, rendering the organ useless as a pump. Known as **ventricular fibrillation**, this phenomenon generally causes death since the vital body organs are not supplied with fresh blood.

**Respiratory-centre paralysis** is the second most lethal effect of electrical shock. Normal breathing is controlled by a stimulus from a section of the hindbrain known as the **medulla oblongata**. The electrical stimulus travels through a complex nerve network to the breathing muscles and lungs. An outside current can easily paralyse the network and cause breathing to stop. Actually death from shock can be caused by **respiratory-centre paralysis**, by **ventricular fibrillation**, or by both.

**FICTION:** Small currents are less harmful than large ones.

**FACT:** For obvious reasons, the exact intensity of current that will cause death in a human being is not easy to determine. However, much research has been conducted in this direction. One careful study in this area was undertaken by researcher L. Alexander and published by medical organizations on the American continent about two decades ago. Table 1 presents key information extracted from his report. There are other complications showing somewhat different tabulations—such factors as whether males or females are involved, whether the current is a.c. or d.c., and the methods used in research may affect the data—but the table will serve as an illustrative guide.

Current in Amperes	Effect
0.0002-0.0003	Tap.
0.00075	Pinch.
0.001	Grip.
0.005-0.015	Unpleasant stimulation.
0.015-0.019	Paralysis of muscles through which current flows.
0.025	Possible permanent damage to tissues and blood vessels.
0.07 and higher	May be lethal.

Table 1.—Shock current intensities and their effects.

Currents of 0.07 to 0.09 ampere generally cause death by ventricular fibrillation, if they pass through the chest. However, much lower currents can also prove fatal. A current of only 0.01 ampere passing directly through the chest can render the victim incapable of releasing himself from the circuit, while simultaneously paralyzing the muscles of the diaphragm needed in breathing. Unless he is released from the circuit with outside help, he will die from asphyxia even though the heart and respiratory centres are not affected directly.

From the chart we can also see why people say that a charged conductor "holds" its victim. Once muscle paralysis occurs, he can do nothing to free himself. However, in some cases, muscles contract with enough violence to "throw" the victim. This, of course, may cause secondary injuries if he hits something in his flight, but also may be the means of saving his life. A larger current would be more likely to do this than a smaller one. More will be said on this score later.

**FICTION:** Low voltages are not lethal.

**FACT:** Thus far we have considered only the effects of a current passing through the body. However, voltage is the force that determines current magnitude. The amount of current for a given applied voltage, of course, depends on resistance—and the resistance of the human body varies widely. It depends, among other things, upon the path of current; the health of the individual; the duration of the current flow; the condition of the skin (wet, dry, etc.); and the area of contact. Measure the resistance of your body from arm-to-arm under various conditions; you will find that, while perspiring freely on a warm day, the resistance is so low that 25 volts could produce sufficient current to cause death. Confirming this, there are cases on record of deaths caused by 32-volt farm lighting systems. Yet, under more favourable conditions, the 120-volt house lighting system would cause only a tingle!

**FICTION:** High voltages are always more dangerous than low ones.

**FACT:** Strangely enough, shock from potentials greater than 1,000 volts may be less dangerous than those from lower voltages. The reason for this is that the high currents associated with high voltages may cause all muscles—including those of the heart—to contract suddenly and violently. The heart muscles may contract to such an extent that fibrillation cannot occur. In such cases, the heart may resume normal action if the victim is released in three or four minutes. A recovery rate of 62% among cases where persons were knocked out by potentials above 1,000 volts was observed during a study made in 1933. The corresponding rate at much lower voltages was only 39%.

(Continued on Page 7)

\* Reprinted from "Electronics World," May '59.



(Continued from Page 6)



During Apprenticeship Week, September, 1959, the Grafton Group of the N.S.W. Division of the W.I.A. conducted a Radio Exhibition and operated a station using the Division's call sign, VK2AWL, at the Grafton Technical College. The photograph shows the Grafton Amateurs, left to right: seated, Geoff, VK2SR; Roy, VK2NY; Terry, VK2JS; Peter, VK2TB, and Bill, VK2OE.

Not only the voltage and current magnitudes but also the current body paths are important. Any route involving the heart or brain is dangerous, as pointed out earlier. The "Journal of Industrial Hygiene" reported in 1925 that, of a number of cases involving fatal shock at voltages below 250, 90% of the victims had marks on their left hands. This indicates that shocks through the left hand—hence, nearer the left side and heart—are much more dangerous than those through the right hand. Thus, if you tend to keep one hand in your pocket while near live circuits, make it the left.

**FICTION:** There are no harmful after-effects if you survive a shock.

**FACT:** If you suffer a shock and have sustained no apparent injury, it may not mean that your troubles are over. Electrical shock sometimes damages nerve tissue. This may cause a wasting away of muscle—a slow, progressive disturbance that may not become evident for weeks or even months. Other delayed effects may produce personality changes, amnesia, mental inertia, blood-vessel diseases, cataracts, destruction of the pancreatic tissues, and heart conditions.

So much for the effects of electric shock. What should be done if you see someone rendered unconscious by electricity?

Every person who works near electrical equipment should acquaint himself with rescue techniques.

The first step is to break the connection between the victim and the power source. If possible, do this by turning off the power. The next best thing is to remove the victim from the voltage source—without endangering yourself. Use a wood board or other non-conducting object. As soon as you can touch the victim safely, apply artificial respiration.

Speed is essential. Any delay at all greatly reduces the chances of recovery. Of some 600 cases studied, over 70% of those receiving artificial respiration within three minutes recovered. Just one more minute of delay dropped the figure to 58%. If there is no heart or respiratory action and treatment is delayed five minutes, death is virtually certain.

If you are alone, do not take time to go for help. Start artificial respiration immediately. If the person can be saved, you can do it as well as anyone. And don't stop even if the victim appears dead. Eight hours have elapsed, in some cases, before the victim responded. The only sure sign of death is *rigor mortis*—and only a physician should judge whether that condition exists.

Above all, don't let the victim bite you!

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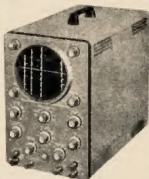
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# Break-In at Its Best

## AUTOMATIC CHANGE-OVER AND RECEIVER MUTING

RALPH ROSENBAUM, W5ECP

**N**O BETTER endurance and practicality tests can be given to a piece of electronic equipment than during Field Day. On Field Day different operators will often find electrical faults in equipment, faults which go unnoticed by the owners. Sometimes, unfortunately, these defects are not discovered until the equipment breaks down under field conditions.

For example, I remember the disaster which occurred during the last two operating hours of the 1953 Field Day Contest. The Field Day operators at W5EKK were working over forty stations per hour until, to their horror, they saw a small cloud of smoke rise from my de luxe break-in system and all the operating tent with the pungent odor of a burnt carbon resistor. The receivers immediately went dead, and it was obvious that the t.r. switch in my break-in system had failed.

● In the break-in system described here, W5ECP combines the features of earlier individual units in a single package. No alterations in transmitter or receiver are required.

break-in system. Keying the transmitter directly would eliminate the keying relay problem, and using r.f. energy as the triggering agent would enable the new system to function automatically on c.w., phone, and s.s.b.

### T.R. SWITCH

The break-in system is composed of two sections—the t.r. switch (Fig. 1A) and the audio-muting and keying-monitor circuits (Fig. 1B). The latter circuits include an audio-muting switch, a side-tone generator for c.w. monitoring, and an audio amplifier to drive a speaker.

Although I had a choice of several t.r. switching circuits, I selected W3LYP's arrangement for several reasons. First, he had tested the switch with a kw. of s.s.b. power. This would tend to indicate that a higher s.w.r. could be tolerated at lower power levels. A t.r. switch for Field Day use should meet this requirement since the

s.w.r. on the feed lines is often very high. The gain offered by his circuit meant that my present preamplifier could be discarded. Last, W3LYP's circuit works automatically when r.f. is applied to its input.

In W3LYP's circuit (Fig. 1A), one triode section of a 6BZ7 is used as a grounded-grid amplifier coupled to the transmitting antenna. The second triode section is used as a cathode follower feeding the receiver. The two stages are coupled using a multiband tuner, C2L3L4, which covers 10 through 80 metres without switching. The tuning is set once for each band. Normal bias for V1A is provided by the d.c. drop across the resistance of RFC1. When the transmitter is keyed, a high bias is developed across the grid leak R1, cutting the stage off almost completely. A few months ago W8EJG came out with a t.r. switch which would make an ideal substitute for the builder who would like to eliminate W3LYP's grid tank circuit.

### MUTER AND MONITOR

The audio portion (Fig. 1B) in this system is a modification of W6ICB's "Monoclipper."<sup>2</sup> Although this circuit has many fine qualities, I found that the clipper circuit he employed was an inconvenience. Since many of the

2 Quick, T.R. Switches," *Hints and Kinks*, "QST," September, 1955.  
3 Lefebvre, "The Monoclipper," *Hints and Kinks*, "QST," February, 1955.

1 Aronson, "An Electronic Transmitter-Receiver Antenna Switch," "QST," October, 1967.

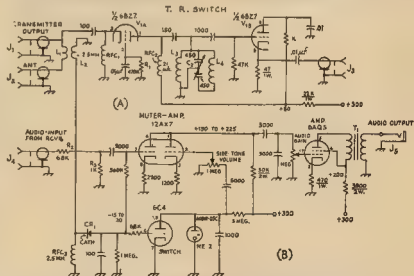


Fig. 1.—Circuit of W5ECP's break-in system. Resistances are in ohms and resistors are ½ watt unless marked otherwise.

C1—Dual 450 pF. variable (b.c. type).  
C2—100 pF. crystal.  
J1, J2, J3—Coax receptacle or phone jack.  
J4, J5—Open circuit jack or phone connector.  
L1, L2—See text.  
L3—22 turns ½ inch diam., 18 turns per inch.  
L4—19 turns 1 inch diam., 32 turns per inch.

Capacitances less than 0.01 pF. are in pF.  
R1—Blocking-bias resistor.  
R2—15-Signal voltage divider (see text).  
RFC1, RFC2—2.5 mH, 125 mA. r.f. choke.  
RFC3—31 pF. r.f. choke.  
T1—Audio output transformer, 5000 ohms to 32 ohms, 3 watts or more (5000 ohm tap if headphone operation is desired).

The complete t.r. monitoring unit is built on a 7 x 12 x 4 inch aluminum chassis. The plug-in turret-socket units are a convenience in construction and adjustment. The one at the left contains the 6BZ7 and associated components. The 6C4 audio oscillator unit is next to the right, while the one at the centre houses the 12AX7 muter/amplifier. The shielded tube to the right is the 6AQ5 output tube.

Nevertheless, there existed a very good reason why the failure had taken place. The break-in system had to be keyed both on c.w. and phone if the muting and t.r. switching units were to function properly. This caused the failure since, during rapid band changes to phone operation, the operators would forget to key the break-in system. The disastrous result was that the t.r. tube and its components had burned out. In addition to this main electrical weakness, I received several complaints that the break-in relay used to key the transmitter was unable to follow the high speeds of the bug.

After Field Day I was so disappointed with my break-in system that I decided to make a different approach to the keying problem. In contrast to the custom of keying a transmitter by a break-in system, I decided that the r.f. power output from the transmitter must be the triggering agent for the

—Reprinted from "QST," September, 1966





tween 100 and 500 volts, L1 should be eliminated and a straight wire should join the two female connectors. The proper number of turns on L2 should be determined experimentally.

With power outputs greater than 500 watts, a straight wire supported on the stand-off insulators and running parallel to the first wire will probably pick up sufficient r.f. energy.

Remember that if the a.w.r. on the line to which the unit is coupled has not been previously checked, the turret socket housing the 1N34 should be pulled from its octal socket to prevent damage to the diode.

Where the unit may be used in Field Day installations, or frequently changed from one antenna system to another, it might be a good idea to shunt RFC3 with a variable resistor (pot.) which should first be turned so as to short out the choke, and then gradually advanced until the signal input to the 1N34 is just enough to trigger the muter and side-tone generator. A more expensive diode with a higher inverse voltage rating would be another solution.

I sincerely hope that the builder will have as many enjoyable hours of operating with this system as I have had!

Interior views of the three plug-in assemblies. Left to right, they are for the audio oscillator, t.r. switch and the muter/amplifier.



## Technical Correspondence

### GATED SCREEN MODULATOR

Editor "A.R." Dear Sir,

Having been interested in "cheap" methods of modulation for some years, I noted with special interest the article in "A.R." Jan. 1956 by VK2AYB and made a mental note to "have a go at it sometime." However, I did not get round to it.

About a month ago I mentioned the matter to another VKs who was having trouble with his grid modulation. Later I sent him the circuit and when he experienced some bother, I made one up to find out why he was having trouble. It quickly became evident that the trouble he was having was not the fault of the "Gated Screen".

I have since had numerous QSO's during which I have changed from the generally used plate and screen modulation, using 807s in AB2, to the "Gated Screen" modulator which is almost identical to the published circuit. On very few occasions has the party at the other end been able to notice the difference. When they have been informed of the change and given another comparison, some of them have commented, "Well, perhaps the 'Gated Screen' does not sound as full-bodied"—and normally I modulate fairly heavily.

I would recommend to all those having bother with control, or screen grid modulation, and to those desiring—for any reason—a "cheap" modulator, to read again the above mentioned article and "give it a go"; I feel sure they will not be disappointed, thanks are due to VK2AYB.

—L. G. Wilson, VK6LG.

### EDWARD AND HIS BEAM

You've heard all about Young Albert  
Who got at up by loc too Zoo.  
Well this is about our Edward  
How he got mucked up, too.

You remember 'twas Mon named Wallace  
Who swallowed our Albert at Zoo  
Well, 'twas a VKs down at Lincoln  
Who got our Edward in poo.

When Eddie went to work DX  
He found himself in mess  
So he went up to drawing room  
And he had word with Ben.

"Tomorrow I'm buildin' ZL Specch,"  
Said Edward to his spouse,  
"Not with your blinkin' form, you won't  
You'll wreck the flamin' house!"

So Edward dreamt of his ZL  
How he worked a hundred countries at will,  
How he worked the Abominable Snowman,  
An' was hail'd as the ace from Townsville.

Next day he gathered conduit,  
Wire an' rusty nails,  
And went to work with vigor  
Amidst the neighbours' walls.

He worked and he worked for a fortnight,  
Till array spread all over the sky.  
Then pressed little switch on transmitter  
And his feed line started to fry.

Not daunted by disappointment and failure  
As such must surely seem,  
He took grid dip and field glasses  
And hid himself to his beam.

Whilst watching P.A. through field glasses,  
From a perch all studded with nails,  
Some clot looked up and shouted,  
"Say, mate, what 'orse 'as drawn rails!"

Now our Edward is slow to anger  
But now he grew livid with rage,  
Said "Go talk to your clobber at Five Dock,  
You both should be in a cage."

Three months to the day of erection,  
Weak signs were heard from the north.  
All the flams in VK were alerted  
And swung their beams backward and forth.

'Twas a VK2 down at Five Dock,  
Who first heard the call of distress.  
Appears our Edward had some kind of trouble  
And was really doing his block.

He swore and he swore like a trooper  
Till air was considerable blue,  
And said here stick your beart, ZL Special,  
I'll build me a CAZU.

## TRANSFER OF P.M.G. RADIO BRANCH HQ. ADMINISTRATION

Members are asked to note that as from Monday, 2nd November, 1959, the offices of the Radio Branch, Headquarters Administration, are now located on the First Floor, Electrolytic Zinc Building, 390 Lonsdale Street, Melbourne, C.I. (On the northern side of Lonsdale Street on the corner of Hardware St. about midway between Queen and Elizabeth Streets.) The telephone for general enquiries will be MF 5551.

Correspondence or enquiries calling for attention by the Victorian Administration of the Radio Branch, should continue to be directed to the Superintendent, Radio Branch, Postmaster-General's Department, 425 St. Kilda Road, Melbourne, S.C.2 (Telephone: BM 2873)

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VICTORIA

# COMFORTABLE WIN BY TASMANIA

HONOURS this year go to Tasmania for winning the Trophy with a comfortably margin from Western Australia, the present holders of the Trophy. The participation percentage was the greatest factor in determining the results and in this regard credit must be given to Tasmania and Western Australia for their organisation which was clearly apparent from the small number of logs not submitted from those States. While no accurate figures are possible for the number of missing logs on account of the possibility of mistaken calls, the approximate number is as follows: VK2 53 (43% of the total starters), VK3 36 (30%), VK4 17 (30%), VK5 23 (28%), VK6 2 (2%), VK7 1 (1.5%).

An award has been made to South Australia for gaining the Highest Log Average.

A number of logs were received which, although accurate, were poorly set out and made the task of the checkers more arduous. A sudden drop in accuracy in one log caused the Committee some concern until it was realised that the young hopeful (?), who had copied the log out, had got the call signs and the serial numbers out

of phase for a complete page! Another log became famous for being compiled on a sheet of paper nearly as large as a sheet of newspaper. Still others thought it would be easier for the Committee if the phone and c.w. contacts were shown separately, but of course this only made it more difficult to locate a particular contact from the serial number.

In the Receiving Section, some excellent listeners' logs were received. It was pleasing to note the interest shown by three Scout groups who submitted lengthy logs. However, there is no provision in the present rules for a group effort; consideration could well be given to incorporating a group section in next year's contest. Two of these logs did not comply with Rule 3 of the Receiving Section, but the third log (from the Second Wilston Senior Scout Group) was accurately compiled and the lads deserve special commendation for their efforts.

In order to make the results in the transmitting sections more interesting and informative, the number of contacts is shown in addition to the score for each competitor.

## REMEMBRANCE DAY CONTEST 1959 RESULTS

State	Total State Score	Average	Licenses	Log Entries	Percentage	Log Average	Total State Points
New South Wales	14513	813	1279	69	5.39	210	1595
Victoria	18317	836	1228	84	6.84	230	2157
Queensland	6975	596	417	39	9.35	179	1248
South Australia	15563	845	445	61	13.71	255	2979
Western Australia	13067	849	253	85	33.6	154	5239
Tasmania	11689	705	130	65	50.0	180	6540
Papua/New Guinea	2174	—	61	2	—	—	—

### STATE TROPHY

Tasmania	6540
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### HIGHEST STATE LOG AVERAGE

South Australia	255
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### SECTION LEADERS

Phone—	Points
VK2AHT—G. A. Hanson	1015
3AHT—N. C. Trall	853
4PQ—N. L. Martin	831
5EN—A. R. Nitschke	1038
6CL—I. H. Clinch	921
7RX—K. A. Johnston	826

Open—	Points
VK2BO—E. L. Andrews	960
3ALZ—I. F. Berwick	975
4WO—A. L. Hoey	530
5RH—S. S. Condon	1085
6RU—J. E. Rumble	1072
7KA—K. E. Millin	771
8RO—R. S. Gurr	1082

C.w.—	Points
VK2QL—F. T. Hine	526
3ZO—N. L. Storek	380
4JF—J. C. Files	205
5XK—A. J. Hewitt	361
6VK—V. J. Kitney	168
7CH—C. Harrison	388
8AU—R. A. Taylor	121

## NEW SOUTH WALES

Top Six Logs—	Points
VK2AHT	1015
290	980
2A5Z	787
2DO	709
2AHM	703
3YN	703

Phone—	Cont. Pts.	Points
VK2AHT	345	1015
2YN	229	703
2A5Z	194	508
2JA	185	448
2ACD	147	400
2ER	135	349
2ER	135	346
2APP	126	334
2ALL	120	306
2AIA	109	306
2AHL	94	200
2XP	96	222
2ADL	60	222
2EU	60	185
1PM	60	182
2IV	50	181
2YM	56	157
2AYW	51	152
2AXT	53	145
2AET	42	124
2QV	48	117
2ACO	48	113
2ACQ	31	104
2AEE	34	104

Open—	Cont. Pts.	Points
VK2BO	315	960
2ASZ	306	787
2DO	255	709
2AHT	213	703
2PT	235	690
2HC	84	282

C.w.—							
VK2QL	-	155	526	2HJ	-	-	22
3OW	-	86	320	2FM	-	-	20
2HV	-	48	139	2HZ	-	-	21
2ANU	-	30	86	2ZO	-	-	8
3OW	-	34	71				

## VICTORIA

Top Six Logs—	Points
VK2ALZ	975
3AHT	883
3ADW	845
3APV	814
3OM	838
3HG	728

Phone—	Cont. Pts.	Points
VK2AHT	357	853
3ADW	289	845
3APV	287	814
3EV	161	507
3DQ	218	843
3OW	190	526
3AER	163	537
3ATM	161	507
3ABT	120	487
3KX	163	418
3APV	147	377
3RN	147	375
3DF	100	241
3FTG	154	339
3ADZ	108	334
3AUG	119	334
3ER	82	329
3NN	111	325
3AMT	99	302
3ALP	85	287
3APV	107	325
3AN	77	234
3SM	87	234
3AUL	92	225
3HE	81	225
3ZU	63	173
3AEL	50	173
3ZU	76	173
3NK	63	167
3PE	87	164

Open—	Cont. Pts.	Points
VK2ALZ	298	975
3HG	174	728
3APV	110	826
3XU	84	353
3ATR	59	194

C.W.—					
VK2BO	135	380	3K5	"	21
3AKN	76	230	3CN	"	17
3IA	82	214	3JI	"	14
3CX	29	93	3UM	"	9
3RJ	30	84	3YS	"	11
3ARV	31	77	3KN	"	8

## QUEENSLAND

Top Six Logs—	Points
VK2AP	998
4FT	835
4RH	830
6BN	804
4LB	829

Phone—	Cont. Pts.	Points
VK2AP	318	940
4DJ	318	876
4FT	214	633
4LB	118	320
4WJ	114	307
4B	85	265
4PS	95	253
4XR	64	148
4LN	53	143
4ER	58	140
4PT	50	117
4WD	46	115
4ZW	41	79
4NG	20	61

Open—	Cont. Pts.	Points
VK2RH	192	530
4SN	116	364

4SN	116	364			
C.W.—					
VK2JF	88	206	VK2HG	45	117
4KE	76	198	4CJ	21	43
4XW	87	187	4AW	8	13

# SOUTH AUSTRALIA

## Top Six Logs—

	Points
VKSWO	1088
5EN	1038
5PT	945
5MQ	784
5XM	671
5KK	569

## Phone—

	Cont. Pts.	
VKSEN	368 1038	5TK
5PT	332 845	5TIB
5MG	271 794	5KV
5KK	230 671	5WH
5KK	234 569	5LC
5KV	213 541	5CK
5EM	173 512	5PS
5JC	187 465	5SS
5GIM	187 408	5JO
5EF	123 399	5ZL
5UA	146 385	5UP
5AO	156 353	5JM
5KV	129 303	5KT
5MS	78 301	5VQ
5OK	91 301	5CJ
5QW	90 296	5RI
5IM	100 273	5PM
5AK	98 272	5CO
5HW	90 268	5FW
5OC	100 263	5KU
5RR	87 251	5DO
5BG	80 246	5XL
5DF	74 183	

## Open—

VKSWO	344	1083	VKSHM
SLQ	137	415	SPY
SKU	119	402	SLG
SKU	51	129	STW
SPM	30	115	

## C.W.—

VK5XK	117	361	VK5BP
5MY	104	319	5RK
5BS	100	308	5DS
5TL	58	168	

# WESTERN AUSTRALIA

## Top Six Logs—

	Points
VKGRU	1072
6CL	881
6KW	843
6SM	823
6WD	784
6RE	653

## Phone—

	Cont. Pts.	Points	
VKCL	353 931	5RH	23 62
5W	314 845	5WI	23 62
5WD	361 794	5TR	30 61
5DX	237 651	5FW	15 48
5LO	159 445	5MT	30 47
5AD	123 345	5NF	18 44
5AD	123 341	5TL	16 41
5WL	121 317	5VT	12 38
5RW	106 301	5AP	14 28
5XO	85 340	5KE	11 35
5ZZ	81 237	5FD	10 31
5XO	84 237	5BL	18 31
5BU	81 236	5MO	10 30
5XR	78 204	5TY	14 29
5CR	71 196	5HK	13 29
5CB	78 194	5OM	10 28
5AG	70 194	5LS	11 28
5CP	87 178	5VM	8 36
5GB	81 168	5AL	10 25
5GU	71 158	5WH	10 25
5JO	59 181	5EF	7 21
5MM	53 129	5MB	7 21
5TK	56 127	5US	8 21
5LM	46 130	5TX	7 20
5CC	50 127	5FM	7 19
5OR	46 123	5HR	5 19
5CW	37 106	5YS	7 18
5TB	46 101	5SZ	8 19
5GH	33 97	5SR	7 15
5BO	23 93	5TP	7 15
5JH	21 88	5ST	7 15
5KJ	21 88	5BC	5 13
5RN	29 83		

## Open—

VKGRU	..	400	1073	VKGW	..
5SM	..	305	623	5JM	..
5RR	..	244	653	5WU	..

## C.W.—

VKSWK	60	159	VKSMK	
5AJ	26	90	5CJ	
5BA	18	50	5RS	
5TH	17	50	5WH	
5WV	13	50	5DF	
5WQ	19	48	5GP	
5VP	14	48	5GJ	

# TASMANIA

## Top Six Logs—

	Points
VKTRX	809
7KA	771
7AI	726
7AB	689
7BL	649
7SF	611

## Phone—

	Cont. Pts.	Points
VKTRX	317 806	
7AI	274 726	
7AB	264 689	
7BL	229 649	
7SF	236 611	
7WA	214 557	
7TT	151 337	
7DW	112 219	
7MK	134 206	
7PJ	117 204	
7JO	77 241	
7CK	46 210	
7PJ	100 182	
7BT	93 164	
7FH	88 151	
7CT	49 122	
7AK	27 88	
7TL	60 81	
7LZ	33 68	
7MF	43 66	
7FM	23 66	
7EC	14 55	
7MY	23 53	
7QA	13 55	
7RM	30 61	
7PF	20 66	
7DR	18 43	
7TD	19 40	
7XX	11 40	
7PJ	19 37	
7MH	18 34	
7TR	11 33	
7AL	18 31	
7CF	18 28	
7LE	16 20	
7LR	17 19	
7TE	12 18	
7UP	14 18	
7DE	6 18	
7SI	7 15	
7AF	7 13	
7WI	7 13	
7DK	7 11	
7CA	6 9	
7EJ	6 9	
7SR	7 7	

## Open—

VKTKA	250	771	V
7YY	202	554	
7BM	178	463	
7OM	81	296	
7MZ	100	285	
7BL	21	48	
7GB	18	28	
7SB	7	24	

## C.W.—

VK7CH	141	388	V
7LJ	138	373	
7KS	58	180	
7ZZ	84	141	

# PAPUA/NEW GUINEA

## Open—

VKIRO	354 1082	V
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## C.W.—

VIRAU	46	121
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# RECEIVING SECTION

## New South Wales—

WIA-12022	D. Granthey
12052	T. I. Mills
12064	A. T. Mullen
12033	D. W. Shephard
	R. Thompson
12057	R. Wood
	R. L. McHugh
12074	B. F. Carroll
12001	B. J. Smyth
12024	N. P. Dash
	P. J. Vernon
12014	P. J. Carter
12069	K. Dunham
12047	D. Richardson
12086	S. Nelson
12012	J. E. Douglas
12026	C. M. Hayes
12130	J. M. Clode
	R. Bent --
12070	P. Miles

# REMEMBRANCE DAY TROPHY



The Remembrance Day Trophy is held by the Tasmanian Division of the W.I.A. for 12 months.

## Victoria—

WIA-12061	B. R. Wilson	896	5000	2017	2000	Inds
	P. A. Barclay	778	10	10	10	Inds
12065	M. R. Cox	662	1000	1000	1000	Inds
12065	I. D. Thomas	323	1000	1000	1000	Inds
BERS196	E. W. Trebilcock	274	1000	1000	1000	Inds

## Queensland—

Queensland—	
E. C. A. Scott	1017
D. King	646

## South Australia—

	O. H Herden	1194
WIA-12015	W. J Clayton	671
12008	R. J Simmonds	662
12031	C M Hutchesson	619
12029	F W Aslin	599
	Miss O. J Martin	555
	K. T Minchin	67

## Western Australia—

WIA-L5003	F. H. Price	211	2111	2	211	1
	L. W. Cloud	111	1111	1111	1111	

## Tasmania—

R. H. de Balfour	1061
M. Jenner	497
G. C. D'Emden	457
G. Ranft	81

## Papua/New Guinea—

WIA-12004	G. A. Greville	194
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## Ineligible Logs—

First Brighton Senior Troop.  
First Maryborough Sea Scouts Senior Troop.  
Second Winton Senior Scout Group.

# BOOKS OF THE YEAR FOR RADIO & T.V. ENTHUSIASTS

★ A.R.R.L. HANDBOOK, 1959 Edition	46/3 plus 2/- post.
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★ RADIO DATA CHARTS, by Beatty & Sowerby, 5th Edition	12/6 " 1/- "
★ HAM RADIO HANDBOOK, by Hertzberg	8/6 " 1/- "
★ BEAM ANTENNA HANDBOOK, by Orr	32/6 " 6d. "
★ CARE AND REPAIR OF HI-FI, by Feldman	31/- " 1/- "
★ RADIOTRON DESIGNER'S HANDBOOK, by Langford Smith	55/- " 2/6 "
★ T.V. SERVICING GUIDE, by Deane & Young	20/9 " 1/- "
★ G.E. TRANSISTOR MANUAL	20/3 " 1/- "
★ RADIO VALVE DATA—WIRELESS WORLD	8/6 " 9d. "

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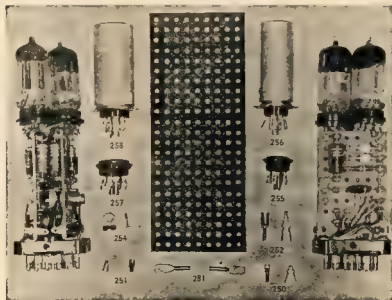
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## A CONFERENCE OF COMPROMISE

IN GENEVA, 1959

One of the most fascinating things about this conference has been to observe the way in which it has worked. In many ways it is unique, not only because of its enormous complexity and size, but because its chief aim is to make everyone happy by producing a result in which everybody's wants are satisfied, and every little requirement which can't be talked away must be met.

IN most conferences, the participants expect to lose out on quite major matters which others will dispute, and are prepared to accept a vote on some basis or another should it be called upon to decide an issue.

But at I.T.U. a vote is one thing everybody tries to avoid. All kinds of conference devices, postponements and compromises are exploited should the possibility arise. Often matters just can't be simplified enough to produce a proposition on which a vote can be taken. Very rarely does any chairman decide to call for it, certainly in the smaller working groups, for these groups are specifically set up to provide an answer which will make it unnecessary to vote.

Naturally there is provision made for voting on the highest conference level which is the Plenary session, and sometimes, when a complete deadlock is reached on a clear issue, it must be taken.

There is even a procedure set down for a secret ballot if five or more countries ask for it.

This has happened more than once in a Plenary session over a dispute such as whether Communist China should be admitted or recognised by the I.T.U. Obviously that was a point which had to be decided one way or another, but few matters break down to such a simple proposition.

The principle is clear in the evolution of the frequency table which is the most important subject from my point of view. Even here there are one or two matters which show every sign of reaching a deadlock, and might make voting necessary. But a great deal of work will have gone on beforehand in an endeavour to avoid this, and it is highly likely that such matters, now in committee, will be pursued all the way to a Plenary session before the final showdown.

The reason for this reluctance to vote at the conference is not hard to find. This is essentially a conference of sovereign nations who, by general agreement, are meeting as members of the I.T.U., which they have joined by voluntary application because they realise that the other must be administered by common agreement for the common good.

Such agreements are honoured merely because the accredited representatives sign the final document on behalf of their Governments, thus indicating that they will abide by its provisions, a fact which amply justifies the existence of the Credentials Committee which examines the right of all representatives to sign.

But there can be no compulsion involved. If, as time goes on, a member country finds that it is having difficulty in keeping its contract, no one can stop it from breaking the agreement if it decides to do so.

The I.T.U. has not, and cannot have, any means by which it can over-ride the sovereign rights of its members to ignore their obligations if they so choose.

Violations of the Atlantic City agreement have taken place by some countries operating h.f. broadcasting stations in exclusive Amateur bands in recent years, as we all know to our sorrow. Faced with their need to set



JOHN MOYLE, VK1FU  
W.L.A. Representative at Geneva.

up stations, and being unable to obtain suitable channels in the official and over-crowded lists kept by the International Frequency Registration Board, the I.T.U. agency for this purpose, some have set up other types of stations out of band, and the vulnerable Amateur frequencies, particularly at 7 and 14 Mc., have been among the sufferers.

Behind every decision to alter the table, or to prohibit certain services from operating in a given band, there is always involved a problem of convenience and finance. Changes are inevitable with time, but it is of no use to make decisions which require exist-

ing services to change frequencies forthwith, for instance, with no consideration for the practicability of such a move.

Even if there is only one country concerned, with big investments in equipment, or without resources to commence a replacement programme, it would be useless to demand that it follow the decision of an arbitrary vote.

Multiply this simple example hundreds of times and you have the reason why this is a conference of compromise. There are nearly always some exceptions which have to be made to the rule.

From the view-point of the frequency table, therefore, every effort must be made to write the general requirements of the world into a classified form which is the table itself, and then to annotate it with all kinds of footnotes which say which countries are exempt from its provisions, or which are permitted to modify or to add to them.

And always this process involves careful consideration to avoid interference with those services which legitimately operate within the confines of the table, or of other footnotes thereto. Yes, it can become most complicated, and as a result takes months of effort, during which everybody is on the alert.

At the beginning of the conference the desirability of limiting these footnotes, and of wording them in such a way that they can be easily understood, was recognised by detailing a special committee to study and advise on the subject.

But as the conference progressed it became clear that we will end up with more footnotes than ever.

Even today, a report came into committee from a working group with 16 footnotes attached to one section of the table, and had to go back to the group for reconsideration on exactly the lines I describe here.

I have even observed a case where there were so many footnotes that the table itself was re-written to accommodate them, and the material in the table became eventually the subject of the footnotes!

One device used to ease the position is, of course, the division of the world up into three Regions. It would be an ideal solution to have every section of the table agreed to on a world-wide basis. Some bands because of their wide propagation characteristics can only be determined in this way, as, for instance, the 14 and 28 Mc. Amateur bands.

But there are others in which it is practical to allocate requirements on more localised geographical divisions such as Europe, Asia and Oceania, and North and South America, a very rough kind of approximation of the three Regions. Broadly speaking their needs can be grouped, although there are quite a few anomalies to be found in this imperfect arrangement.

Without the Regions, the footnote position would become even more confusing than it is today.

It is probably true to say that many footnotes come into existence as the result of second and third thoughts on the part of some countries.

(Continued on Page 16)

## A CONFERENCE OF COMPROMISE

(Continued from Page 15)

When the conference began there were two big volumes of nicely printed proposals which purported to be the agenda. But because there were many who had not sent in proposals, it was obvious that there were more to come. There were.

### AMENDMENTS TO PROPOSALS

On the first day delegates were presented with a pile of amendments as big as one of the original volumes. Since then so many more proposals have been received, many of them emerging from the course of events, that as far as the tables are concerned the original volumes are almost useless, and it has been necessary to publish the entire set of proposals in grouped and indexed form on rooned sheets for the convenience of the working groups.

When tackling his section of the spectrum, the chairman of each working group or sub-working group first attempts to classify all those proposals which seem to indicate a certain trend, and to commence discussions on the remainder to see whether some can be withdrawn, combined, or otherwise fitted into a plan.

In the course of events, some countries, seeing that a concession is likely to be granted to another in the form of a footnote, decide that they too would like to be included in it. Before one can turn a hair, what was initially a small item has blown up into a big one, and we start all over again!

This has happened many times, when an apparently minor suggestion involving an Amateur band has suddenly gained support and expended into a major threat about which drastic action has to be organised.

These are the occasions upon which the presence of many Amateur-minded people at the conference has been invaluable, for some of the attacks which have developed can only be described as vicious on the part of one or two countries, who have no love for Amateurs if their delegates are to be believed.

The menace of the footnote has caused me as much worry and headache as many straight proposals which can be met in the open and thrashed out for better or for worse. Even as I write, there are three or four which we are all watching very carefully in case they should get out of hand.

The same thing can, of course, be said of many proposals, particularly the lone proposal. Sometimes it is so removed from the general picture that the innocent could be pardoned for ignoring it as likely to be voted out. After he discovers that voting out is a last resort, he wakes up to the fact that many countries who rather lean towards the lone proposal's provisions are quite happy to leave it there to see what happens, jumping joyfully and rapidly on the bandwagon at the appropriate moment so that the lone proposal suddenly finds itself surrounded by friends.

When that happens there is a real scurry, other countries reserve their positions right and left, and usually the matter is held over until the next meet-

## TECHNICAL TOPICS

### ANTENNAE FOR FIELD DAY OR PORTABLE OPERATION

THE first requirements of an antenna for portable work are: (1) That it should be easy to transport and erect, and (2) That it should efficiently radiate the limited power available from portable transmitters.

The first type of antenna which comes to mind for portable work is the whip type as used in various Army transmitters, but, while this type meets requirement (1) perfectly, it is not an efficient radiator unless its length approaches a quarter wave, which makes it an impossible size on 7 Mc. and 3.5 Mc. For mobile work, the whip is the only practical antenna and it is possible to considerably improve its efficiency by centre loading with high Q coils, but even so, it is still much less effective than a half wave antenna.

If for increased efficiency, we decide to use a half or quarter wave wire, then supports are needed and these can be found in trees. It will be necessary to select a site for field day operation which as well as good propagation characteristics, has suitable trees spaced the right distance for the bands to be used. In erecting the wires, it is not necessary to climb the trees but proceed as follows:

Use a fishing line of length more than twice the height of the tree and tie a weight such as a large nut on one end. Swing this weight around like a sling shot or fisherman casting and let it go over the top of the tree. This requires a little practice.

If the line is checked before the weight reaches the ground, it will swing like a pendulum, wrap itself round a high bough and take no further part

in, by which time some heart-to-heart talks take place among all concerned.

The man who thinks his special propositions are completely safe at this conference, particularly where there has been some difference of opinion and an uneasy truce, can never be certain when the whole thing is likely to blow up again in his face, with a totally unexpected result.

And it can happen right up to the moment when the final articles are signed.

For, as I said at the start, this is a conference of compromise as far as frequency allocations are concerned, in which everybody's voice has a right to be heard, and in which every nation has an equal standing and can demand that its wants be met.

The art is to do it without ending up with a table which means nothing at all.

The danger that exactly this will happen is well recognised, and at this moment a special study group is examining certain sections of the spectrum in the hope of future planning to restore some kind of long term order.

Because if this is not done, the policy of compromise will lead to complete chaos, which many consider isn't very far away.

in the operation, so it is best to have a spare weight and line available.

When the line is across the tree, the aerial can be tied to one end and the line used as a halyard.

An alternative method to the sling is to use a bow and arrow but in any case don't let the weight or the arrow fall back on your head or your car.

Suitable types of wire antennae are:

(1) **The folded dipole.** This is one of the most efficient half wave radiators. It can be coupled direct to the tank coil link and does not require an aerial tuning unit. If made of 300 ohm ribbon throughout, it is easy to handle and does not tangle like wire. It has the disadvantage of being strictly a one-band antenna and it would be expensive to have a 300 ohm ribbon folded dipole for each band.

(2) **The vertical quarter wave.** The length is approximately 66 feet for 3.5 Mc., 33 feet for 7 Mc., and 16 feet for 14 Mc. This antenna requires a good ground and for portable operation in open spaces it is probably easier to provide four quarter wave radials and make it a ground plane antenna which concentrates the signal into low angles. The vertical radiator could be heeled up to an overhanging tree and the four radials run out at a small downward angle with long extension cords and tied to pegs in the ground or other trees. With downward radials a 50 ohm feeder would be an approximate match and in any case would be very short.

(3) **The all-band antenna.**—130 feet centre fed with 88 ft. open wire tuned feeders. This requires an aerial tuning unit which is an additional piece of gear to set up. The feeders and the spacers can get into tangles and be awkward to sort out. Once up, however, this antenna allows band changing without alteration to the antenna.

(4) **The all-band antenna with dipoles cut for each band and all fed by the same 70 ohm feeder.** This would be very good for quick band changing but unless the dipoles are made of insulated wire, it might be difficult to keep them separated in antenna required for quick erection.

If the antenna is required for Field Day operation and the Contest is held in daylight only, as in recent years, then probably operation would be most profitable in two bands—7 and 14 Mc. For these two bands it is suggested that two antennae be used, the choice being the folded dipole for 7 Mc. and the ground plane for 14 Mc.

If the Contest is to run for 24 hours, then an additional antenna for 3.5 Mc. or an all-band antenna would be required.

—J.A.G.

### RESULTS OF VK9 3.5 Mc. CONTEST

The 3.5 Mc. Contest conducted by the Papua/New Guinea Division of the W.I.A. during July was won by VK9XK with VK9RO filling second place.

Despite periods of very high noise level, contacts were obtained with U.S.A. and Japan, and many VK and ZL stations took the opportunity of gaining a contact with VK9 on this band.

The Division wishes to thank all those who participated and helped make the Contest a success.

# An Economical Receiver for S.W. Listening

D. M. GRANTLEY,\* WIA-12022

SINCE publication of my article on Short Wave Listening in "Amateur Radio" of April 1959, I have had quite a number of letters seeking information on the conversion of the Number 19 Receiver. In view of this, here is the information as already supplied to the chaps who enquired from me, hoping that it may be of interest to some of the other s.w.l's.

Let me point out at this stage that the original receiver which I used for many months was not converted by myself, but by VK2RS. The v.h.f. communicator and main transmitter in this case were removed, and I built a power supply in its place. But there is a far easier way to get this remarkable receiver working, and it does not involve the removal of any part of the transmitter, thus enabling the listener to have his first rig when he gets his ticket.

There are two plugs on the front panel of the set; one is a 6-pin, the other a 12-pin. The output is taken from pin 4 of the 12-pin plug and the

\*"Spring Valley," Holbrook, N.S.W.

other connections we worry about are on the 6-pin. Pin 4 is the 500v. point, and pin 6 is the 275v. point. (I use only one supply of about 300v.)

The only other task remaining is to alter the filament wiring from 12v. to 6v., and like most things there is an easy way of doing it. Simply locate an easily accessible valve socket (and you will find that the 807, being lower than the rest, and more or less in the clear, is the logical choice), earth the filament pin which is connected to the 12v. supply and connect the 6v. lead to the other filament pin. This being completed, you should have 6v. on all the filaments; if not, a quick inspection of the filament circuit will no doubt enable one to locate the fault and rectify it. I have converted several by this method, and it seems to do the trick successfully. Pin 3 on the 6-pin plug is the supply point for the 11-4.

Having completed these few adjustments, all that remains to do is to fire the gear up and unless there is something radically wrong, it will go.

If it is decided to remove the transmitter from the transceiver, there will

then be plenty of room to build a power supply and thus have a self-contained unit. Any conventional supply delivering 6v. 11. and about 300v. h.t. will suffice.

Two adjectives, "remarkable" and "inexpensive" have been used in the course of this article, the latter cannot be disputed, as a perusal of the various dealers' advertisements reveal an average price of less than £5, which in view of the little work to be done on it, is most reasonable. For its size and age, it is a most remarkable little set. I have had considerable success with it, both on its own range and with a converter for the higher frequencies. There is plenty of power at the output and although designed for headphone operation, it operates a speaker at good strength.

A certain measure of bandspread can be given by removing all moving plates except one in each section of the gang, and soldering a 50 pF. silver mica capacitor across each of the four trimmers beneath the chassis on the I.f. band. I have not tried it, as my converter has full bandspread on all bands, but according to G3IDM in the R.S.G.B. "Bulletin," Feb. '59, it gives a spread on 80 metres to over three-quarters of the dial, and extending 40 metres to over half an inch—which is over three times the coverage in the original form.

Care is needed in the selection of the actual machine, as some of them are heavily tropic-proofed, and it is advisable to inspect the "works" of the set before purchasing. It may be just a co-incidence, but of the ones I have worked on, the ones in good clean condition were the ones which have the various controls labelled in Russian. Circuits are included in some of the cases, but in case they are not, one can be obtained for a nominal charge through the VK2 Division.

Now go to it you s.w.l's, and if you cannot win an R.D. Contest on this gear, then you want to give the game away.

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## ANNOUNCEMENTS

N.S.W. Divisional Convention will be held on 30th January, 1960, at VK2FW, Quarry Road, Dural. Good prizes, 3 hrs blindfold test, hunt, excellent entertainment, and some disposable gear are some of the features. A real get-together for all at reasonable cost. Full details in your Bulletin and Broadcasts, so join us at Dural for another enjoyable Convention.

Victorian Zones and Clubs. Secretaries of zones and affiliated clubs are reminded of the trophy, presented by the Victorian Divisional Council of the W.A.A. for the best score returned by a zone or club in the National Field Day Contest. Further details will be found in the Victorian notes in this issue.

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# ROSS HULL MEMORIAL V.H.F. CONTEST 1959-60

The Federal Contest Committee of the Wireless Institute of Australia invites all Australian and Overseas Amateurs and Short Wave Listeners to participate in this annual contest which is held to perpetuate the memory of the late Ross Hull whose interest in v.h.f. did much to advance the art.

A handsome Perpetual Trophy is awarded annually for competition between members of the W.I.A. in Australia and its Territories, inscribed with the name and life work of the man whom it honours. The name of the winning member of the W.I.A. each year is also inscribed on the Trophy. In addition, this member will receive a suitably inscribed, framed photograph of the Trophy.

**Objects:** Amateurs in each call area (this includes those in Australian Mandated Territories and Antarctica) will endeavour to contact Amateurs in all other call areas and overseas. (VK1 and VK2 will be considered to be one call area.)

**Date of Contest:** 1st December, 1959, to 31st January, 1960.

**Duration:** From 0001 hours E.A.S.T. 1st Dec., 1959, to 2359 hours E.A.S.T. 31st Jan., 1960.

### RULES

1. There shall be three main sections to the contest:  
(a) Transmitting phone.  
(b) Transmitting open.  
(c) Receiving phone and c.w.

2. All Australian and Overseas Amateurs may enter for the Contest whether their stations are fixed, portable or mobile.

3. All Amateur v.h.f. bands may be used, but no cross-band operating is permitted, with the exception that 50-54 Mc. and 56-60 Mc. will be considered to be the same v.h.f. band for overseas contacts.

4. Amateurs may enter for one of the above sections listed in Rule 1. An "open" log will be one containing both phone and c.w. contacts.

5. Only one contact per station per band is allowed each calendar day and arranging schedules for contacts on other bands is not permitted.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

7. Entrants must operate within the terms of their licenses.

8. Cyphers: Before points may be claimed for a contact serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telemetry) or RST (c.w.) report plus three figures

which may begin with any number between 001 and 100 for the first contact and which will increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 053, then for the second contact the number will be 054, for the third 055, and so on. If any contestant reaches 999 he will start again with 001.

9. **Entries:** Entries must be set out as shown in the example, using only one side of the paper. Entries must be postmarked not later than Saturday, 1st March, 1960, and addressed to the **Federal Contest Committee, W.I.A., Box 371B, G.P.O., Hobart, Tasmania.**

10. **Scoring:** Scoring will be based on the table shown herewith.

11. **Logs:** All logs shall be set out as in the example shown and in addition will carry a front sheet showing the following information:

Name ..... Section .....  
Address ..... Call Sign .....

**Claimed Score**

**Declaration:** I hereby certify that I have operated in accordance with the rules and spirit of the contest.

Signed, .....

Date, .....

12. The right is reserved to disqualify any entrant who, during the Contest, has not observed regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No dispute will be entered into.

14. **Awards:** Certificates will be awarded to the winners of the transmitting and receiving sections in each VK and Overseas call area. Further certificates may be awarded at the discretion of the Contest Committee. A certificate will be awarded to the contestant returning the highest score in the transmitting sections.

The highest VK scorer who is a financial member of the W.I.A. will hold the Trophy for a period and in addition will receive an appropriately inscribed photograph of the Trophy.

### RECEIVING SECTION

1. The rules are the same as for the transmitting section and it is open to Short Wave Listeners in Australia and Overseas

2. Contest times and logging of stations on each band are as for the transmitting section.

3. To count for points, logs will take the same form as for the transmitting section but will omit the serial number received. Logs must show the call sign of the station heard (instead of worked), the serial number sent by it, and the call sign of the station being called.

Scoring will be on the same basis as for transmitting stations. It is not sufficient to log a station calling CQ.

4. A station heard may be logged only once per calendar day per band for scoring purposes, but additional reports will be of value to the F.C.C.

5. **Awards:** Certificates will be awarded to the highest scorer in each VK and Overseas call area.

### SCORING TABLE

	To												Overseas other than ZL
	VK1 VK2	VK3	VK4	VK5	VK6	VK7	N.T.	VK9	ZL1	ZL2	ZL3	ZL4	
VK1-VK2	-	5	4	2	10	4	6	10	7	7	7	7	10
VK3	5	-	4	4	9	10	6	10	7	7	7	7	10
VK4	4	4	-	5	10	7	3	7	7	8	8	8	10
VK5	2	4	5	-	7	5	3	10	8	8	8	8	10
VK6	10	9	10	7	-	10	10	10	10	10	10	10	10
VK7	4	10	7	5	10	-	7	10	7	7	7	7	10
N.T.	6	6	3	3	10	7	-	3	10	10	10	10	10
VK9	10	10	7	10	10	10	3	-	10	10	10	10	10
ZL1	7	7	7	8	10	7	10	10	-	-	-	-	-
ZL2	7	7	8	8	10	7	10	10	-	-	-	-	-
ZL3	7	7	8	8	10	7	10	10	-	-	-	-	-
ZL4	7	7	8	8	10	7	10	10	-	-	-	-	-
Overseas other than ZL	10	10	10	10	10	10	10	10	-	-	-	-	-

The score for the first contact with any particular call area on each band will be that shown in the above table. For each subsequent contact with the same call area on the same band the score will reduce by one point until the contact value reaches 1, when all further contacts with that call area on that band will retain this value.

In addition a bonus of 20 points may be claimed for each new call area worked on each band.

### EXAMPLE OF TRANSMITTING LOG

Date/Time E.A.S.T.	Band	Emission	Call Sign	RST/NR. Sent	RST/NR. Rcvd.	Call Area Bonus	Points Claim.	Blank

NOTE.—The standard W.I.A. Log Sheet follows the above form.

### EXAMPLE OF RECEIVING LOG

Date/Time E.A.S.T.	Band	Call Sign Heard	RST/NR. Sent	Station Called	Call Area Bonus	Points Claim.	Blank

NOTE.—The standard W.I.A. Log Sheet follows the above form.



Page 19

# THE PUBLIC SERVICE OF PAPUA AND NEW GUINEA

## RADIO TECHNICIANS

### Senior Radio Technician

(several positions)

£1,310-1,370 p.a. (single)

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**Duties:** In charge transmitting and receiving stations, v.h.f., m.f./h.f., c.w. and radio-telephone trunk and out-station services.

## Radio Technician

(several positions)

£1,140-1,250 p.a. (single)

£1,265-1,375 p.a. (married)  
(actual rates)

**Qualifications:** Qualified as P.M.G. Technician (Radio) or equivalent (persons qualifying this year may apply).

**Duties:** Assist in maintenance and installation of communications transmitters and receivers, v.h.f. and m.f./h.f.

**Appointment:** Permanent or fixed term appointment. Officers of Commonwealth Public Service will be considered for transfer pursuant to Section 43 of Public Service Act for period of up to two years in first instance.

**Accommodation:** Single quarters available; married accommodation unlikely to be available under 18 months from date of appointment.

**Separation Allowance.** Payable at discretion of Territory Administration; designed to compensate for added expense of married appointees obliged to maintain family outside Territory.

**Leave:** Three months after each 24 months in Territory and six months furlough after 30 years. If permanent, additional three months leave after each six years.

**Further Information:** An Information handbook on the Territory and its Public Service is available from Department of Territories, Canberra or Sydney, or from any Commonwealth Public Service Inspector, Commonwealth Employment Office or official country Post Office. Other enquiries to Department of Territories, Canberra (phone 70411, Ext. 25A).

### APPLICATIONS

**SUBMIT** on prescribed form available from above offices.  
**TO—**The Secretary, Department of Territories, Canberra, by 18th December, 1959.

## PREDICTION CHART, DEC. '59

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Five-band Unit Exciter for 80, 40, 20, 15 and 10 metre bands

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Recommended input capacitor Edgystone Type 817. Recommended output capacitor: Standard miniature 5-gang 50 pF condenser which is suitable in this position up to 1 kw.

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Hampden, Vic.

Maybe the notes did miss last month. My apologies to those who forwarded theirs in time. The reason for lateness, the awaiting of further notes and a temporary breakdown of the lines between the printer and the editor. The paucity of the notes this month reflects the normal late arrival. That is not a reflection on the Divisional scribes, but it is on the h.c. operator who leaves it to the scribes to dig up their own information. (Copy dates will be strictly adhered to in future—Editor.)

Highlights from the missing notes were the working of K118 by 4HD and 4NG, and 9MIDQ breaking into a contact between 6BE and 6ZCB. This is Jim's second contact with VK1. This 8025 fellow said that he is working into V58 on an average of three nights a week. He would have the theorists explain what type of propagation he is using. What about it boys? Jim is situated on the geometric equator; the distance is 1,800 miles; there is no T.E. barrier. He also works DU and JA, but not frequently. He also listens every night at 0015 E.A.S.T. He also listens frequently towards VK around 1600 E.A.S.T. His lunch time has two break-throughs have been heard on this hour.

Then there was the smattering of JA DX and a couple of Es openings. VK4/J, VK5/J, Brian 5ZDW, of Darwin, has location troubles, but despite that Australia has mixed it with JA. The arrival of 8ZEL in that area has increased the number of 80 Mc. stations by 100 per cent. No deep J's are likely to be in case the opportunity for W.A. comes along.

DX during October was relatively poor. JA signals not reaching great strength and not as frequent as this time last year. Nov. got away to good start, the third providing the best ever opening. VK5/JA from 1200 to 1730 all the way, sig. booming in. Only a couple worked V2. The 1730 signal was generated by two operators on the air at the time, one of whom was successful.

A counter attraction when the band did open was the sighting of a well known Melb. exiled the first Tuesday of Nov. Maybe all other ears were at the b.c. sets. Heard being called during the opening were VK2ZES and VK2ZB. Both divisions appear to be clearing their share. Ex produced nothing that I know of, though Les 3XMG has been frequently hearing a number of calls, apparently from VK4 around 1700-1800. Jack 3ZDK claims more use should be made of early morning sessions (around 0630) because the absence of QRM makes for ideal listening conditions. He has recently found the point by hearing VK3 3ZJZ/3ZER portable at Mt. Lotfy in VK3 on 50 Mc. and 144 Mc. on Nov. 4, at which time Jack said that those who write and listen would have missed out. T.v.l. between intercontinental 3 stations is already evident, good enough to make newspaper items, so maybe we are in for a good Es season.

To all the regular scribes and those others who have provided so many notes for this column throughout the year, my sincerest thanks, and to those who write and those who read, the Season's Greetings, a Holy Christmas and a Successful New Year.

—Frank O'Dwyer, VK3OF.

## 50 MEGACYCLES

### NEW SOUTH WALES

November 9, during what was apparently a general opening to JA, VICADR worked into JA4 and B. Others of the gang were heard calling.

### VICTORIA

50 Mc activity has been at an average for some time by DX has been conspicuous by its absence. On a few occasions, odd signals have been heard, but nothing was achieved in the way of two-way contact. However, hopes are still high, reception was good, overtime with beams turned towards DX localities.

Some new calls active for the interstate gang to look after John 3ZJE, Neal 3ZJN and John 3ZJA. Old timer 3ACI, at Red Hill

made a brief return to the band and is expected to be heard again frequently. Keith 3ZED is off to the Antarctic in 1962. He will be stationed at Davis, operating under the call of VK0ED 50 Mc. gear will be in his kit and he hopes for some fun for a way down yonder. We wish you the best of luck, Keith, while down there. You will have to anchor things firmly down there in those gales, otherwise you will be chasing in all over the place. He sails on Jan. 5 on the Magda Dan.

Bert 3ZGD back on the band after some "technical" trouble. He is building mobile for 0 and 3 mhz and hopes to operate portable from Eden early next year, so look out the ZLs.

Of interest to the 50 Mc. gang. On Nov. 1 a viewer at Hamilton (western Vic.) reported that ABQ2 replaced the picture from ABV7 for periods during the afternoon. 3ZGP (Melb.) found the signal from ABV7 was noticeably interfered with while listening with an RF328 converter.

Nov. 3, JAs were heard and worked in Melb. between 1400 and 1500. While next day 3ZEW portable at Alexandra (N.E. of Melb.) heard a ZL during the afternoon. Nov. 5 more JAs were reported heard. Anyone knew where a telenote station on approx. 34 Mc. heard often around Melb., is located? 3ZGP has a 34 Mc. station in the area. He has noted the time of break throughs, it was heard again over the three days just mentioned.—3ZGP.

## EXTENDED USE OF 50-54 Mc. BAND

**PURSUANT** to a request from the W.I.A. for the continued use of the band 50-54 Mc., the Postmaster-General's Department has authorised the use of the band until 31st December, 1960, conditional upon relinquishment thereof by Amateur station licensees before that date upon fourteen days' notice if the band is required by the Television Service.

### QUEENSLAND

JA openings few and far between and very patchy. Best opening was on Oct. 16 from 1255 to 1425 with good strength sigs. JAs appeared to be around all the afternoon together with Scatter b's and 1 station from Tokyo, also HILXA Korea. I got down to serious listening at 1600, joins QRT at 2203, JAs still in. 4ZBI worked six, Dane 4ZAX was active also during the dinner hour. The Brisbane gang were represented during the evening session by 4ZAK and 4ZEB. JA districts 0, 1, 2, 3, 6, 7 and 8 were heard.

On the 18th, JA1 and 3 at lunch time, 54/S, again at 1800-1900. 20th, JA1, 2, and 4 from 1815 to 2034, to 85, 34th, HILXA peaking 68 at 1210, but about 1300 JA1, 2, 3, 4, 5, 6, HILXA and JA10GY from 1145 to 1303, peaking 58. Heard no further DX until the 31st. Heard JAs on Nov. 3, 4, 5, 6, 7, 8, 9, and 10. 4ZAX worked him. 4ZEB also was around. Thought that I heard sigs from VK5 one dinner time, on the 30th at 1230; who was talking was Wally. Was it you, Hans, or Boer Curki. Heard that Bob 4NG and Lance 4ZAX were being mentioned in dispatches. Also heard from 4ZBI on the 8th was a 3Z34 for about two minutes at 1825, 33.

Welcome to 50 Mc. 4ZCH, at present up near IGY, QTH about 46 miles south-west of Brisbane. Running on battery power. Mick 4ZAA appears to have been cleared up. He has been back on 30. Bill 4WD must have migrated, the JA's will think him a new call sign when he comes to appear. Arthur 4ZBA has a P. & S. mod. now so he may get out much better when Es start again, if it starts. 4ZAX was a 5 element on the job now I believe. Les 3ZJ has ideas of starting on 50 Mc. home set, Les.

Never heard Bruce 4ZKH now, he has forgotten about 5 mhz I think. Quite a bit of mobile activity up in the Brisbane area now. Alan 4ZMI, but about 1400, 3ZJZ waiting for his new Minor by Kmsa. Doug 4ZDL using hot 6V6 and quad. Max 4ZD boring up his 100TH now or is it the 3C/150A, Max—4ZBH.

### WESTERN AUSTRALIA

Conditions, on the whole, have been quiet this last three weeks except for two exceptionally good openings when the band

was open into JA for at least six hours. The last of these was on Nov. 3 when apparently all the stations in the band were heard calling VK5CB, VK5XAZ and many other stations.

At last I am sure I have a definite identification of that carrier "with hums on it" which Mc. and with the other carriers alongside. I now have no doubt at all that it is a Russian signal. Charochev, the Channel 3 Enigma inquiries I have made confirm the following points.

(a) A comparison with TSWT on an Am. rig proves it is T.v. The two sigs are identical. Remember, of course, that a comparison of that type has only been possible since TSWT quit the band on 1st October.

(b) Frequency is right—43.75 Mc.

(c) Beam direction is right—there are at least two T.v. stations in Siberia. The most distant (Novosibirsk) is about 20 degrees W. of N from Perth and about 5,000 miles away. If 5,000-6,000 miles appears to be about normal skip here, Tokyo is about 5,000 miles. The distance, then, from Tokyo to JA8 is 5,000 miles. The distance, then, is right. I have been unable to locate the second Siberian station, but I suspect it is near Vladivostok and one of their station located in Vladivostok has been heard here.)

Incidentally, checking through my log, I have noted that I logged the signal 34 times since March 58. That is, I have not logged it since, however, since I have not logged the sig when it has been present during a sizeable JA opening.

Local activity on 50 Mc. remains at quite a high level. Mobile activity is increasing, with JA8C joining in. 5ZAY is still an active 100 country station—has active on active on 100 per cent. contact of Perth (70 miles), 6WQ, 6ZDP, 6ZBM, 6ZAK and 8JG are all active on 50 Mc.—4BE.

## 144 MEGACYCLES

**VICTORIA** Two metre activity as heard from Ballarat has been quite high during October and estimates made from log book entries indicate an increase of over 100 per cent. in the number of contacts made during the month of October, the period last year. No outstanding DX has been worked, but a number of new comers and new comers in Melbourne have worked Ballarat stations for the first time.

An interesting contact was made when Ron 3ZER and yours truly contacted Syd 3CI in Melbourne on Nov. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. When Syd worked five stations in the Ballarat area 3PO, 3SE, 3ZBS, 3ZER and 3ZEL, the Ballarat gentleman probably had previously been regarded as very difficult to get the signals. I have indicated that this is not so. A series of skeds have been arranged to prove this point.

S.A.B. has made its appearance on 144 Mc. in Ballarat. Brian 3ZBS put on a signal on 144.8 from a base exciter on Nov. 1. Much work remains to be done, however, and Brian does not expect to be working DX on a.s.b. for a while yet. 3ZEL is still a few nights work behind with the a.s.b. exciter.

VK4/VK5 skeds are continuing each night at the new times announced over the VK3 W.I.A. broadcast during October. For anyone who missed the times the new schedule is as follows: when VK3 calls, 1835 VK6 calls, 1940 VK3 calls, 1945 VK6 calls. The same schedule applies to every evening except on 30th and 31st, because it was felt that there was more likelihood of achieving contact by the reflection at this time and also because the earlier hour is more convenient to the majority of participants at each end. There has been no positive signals identified by either end as yet. What time will the VK3/VK6 skeds be made? These skeds may result in exciting records, being broken and even if nothing occurs, they do stimulate increased activity which can do nothing but good.—3ZEL.

### QUEENSLAND

Seems as if Ron 4ZBE has acquired a 532 tx, have you a rx also, Ron? 4ZBI should have converter on by Kmsa. Vic 4ZET proposes 5A76, cascade final. Wonder if Bob 4NG got his converter on mx during his holidays?—4ZBH.

### WESTERN AUSTRALIA

Activity here is increasing with quite a few stations now operating. 6ZDS, 6BO, 5WQ, 5ZAX, 6ZDW, 5GB are all regulars. The daily 1800-1900 skeds by 4ZBH and 3ZJZ was most true. One unidentified sig on about 144.9 was heard in VK8 during the 3ZEL sked. It was some time before the 3ZEL sked station operates there as far as we know.

Fox hunts are still held each month, commencing from King's Park. Much fun is had by all.

(Continued on Page 24)

Amateur Radio, December, 1951





# VK4TC AT TOWNSVILLE INDUSTRIES FAIR

On 17th, 18th, and 19th September the Townsville boys ran an Amateur Station under the call sign of VK4TC. As will be seen by the accompanying photograph it was well laid out and pleasing to the artistic eye of the President of the Townsville Amateur Radio Club, VK4PS.

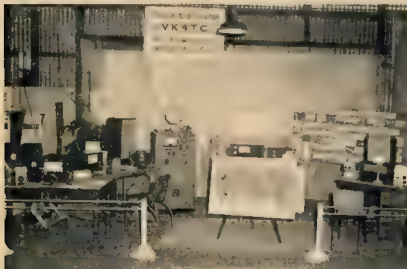
Pride of place was given to the T.A.R.C. call sign, VK4TC. On the back wall were maps of all parts of the world in great detail, while in the centre foreground a map of the world sported flags of countries worked when the photograph was taken.

trical gadgets which were not suppressed. Never fear, chaps, all who were worked will receive a QSL card depicting the station, I hope, donated by VK4EJ.

The assistance given by people outside the club was greatly appreciated. While to the very few of the boys who did the yeoman work, I say "many thanks."

This is the first time we have organised an exhibition and the experience gained will be of great assistance for the future exhibitions.

—R. W. Wilson, VK4RW.



The station on the right was on 50 Mc., exhibited and manned by VK4ZBE. In the background were QSL cards of over 100 countries.

The table on the left had a very nice home-brew receiver, etc., built by VK4DD, together with books appealing to Amateur Radio.

The next was a complete station of VK4PS and manned by various operators, and in the centre at the back was a table of various home-made equipment lent by the boys for this great occasion.

Unfortunately there is no photograph of the aerial systems used. These were as follows: VK4PS home-brew G4ZU on top of VK4BQ's new tower, 45 ft., also 4 element for 144 Mc. link with VK4MF and 30 ft. water pipe sported the 4 element yagi from VK4RW. A dipole was used on 7 Mc.

We were sorry to disappoint the 7 Mc. boys as we experienced very bad t.v.i. on the "closed" circuit t.v. run and demonstrated by A.W.A. Quite a number of contacts were made and a larger number not worked—although we were called—due to the extra high noise level from various stands in the proximity demonstrating elec-

## V H F (Continued from Page 21)

288 Mc. 6EC still possesses his t.v. camera. Believe the tx works and sigs have been sent out. 6FM is threatening to build a 180w 233 Mc. tx using a 4X150A. Several chaps have vital controlled gear on 660, but activity is low at present.

T.V.: Channel 7 appears to be giving pretty fair coverage and several VKs are spending some time looking. Purely academic interest of course. 623V is a regular "looker". 6ZBQ, 6BU, 6G3, 6XD and 6CL all are interested.

At last! Our first case of t.v.i. Ron's (6FM) neighbour reports t.v.i. Doesn't appear to be serious, however. What will you do to Channel 2, Ron?—BEE.

## A.T.V. AND T.V.I.

Len 3ZGP has been wrestling with some t.v.i., but appears to have cleaned the trouble up thanks to the help of Mac 3QO. He found one piece of trouble happening often and worth passing on. Those concentric air trimmers, 1/32 pf variety, if you contemplate using these, make sure when installing that the ceramic pillar supporting the rotor area is not coated with aluminium rubbed off the sleeve of the rotor. Bet you bottles to nothing that your drive problems could be traced to this unit. Three recent events resulting in low drive and poor results were removed in one case by fitting a new unit, and others by fitting a normal trimmer capacitor. It is worth checking. The constant screwing in and out of the rotors steadily leaves a deposit of aluminium on the ceramic pillar. Wondered why I got a dead short across one earlier.

## GENERAL NEWS

Victoria.—The October V.h.f. Group meeting was well attended and those present heard an interesting tape on t.v. from the British Amateur T.V. Group. General information on Amateur t.v. and a discussion on a simple scanner for reproducing images or a c.r.t. utilising a photo electric cell in a simple flying spot scanner. Further tapes are available on more advanced equipment which could be played for those interested. We were indebted to Charlie 3AAK for the tapes. The recent 6 mx scramble took place on Oct. 26 with some 23 stations participating. John 3ZFO took the honours in this event with 19 stations worked. Quite a successful evening.

Cheers for all in VK3 Christmas Greetings to all the v.h.f. gang in other States from all the v.h.f. gang in VK3, likewise from self.—3ZGP.

May all your  
Christmases be Bright  
**IRONCORE TRANSFORMERS PTY. LTD.**  
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## FEDERAL

**Fed. President:** G. M. Hull, VK2JZ  
**Fed. Asst. Secretary:** W. Mitchell, VK3UM,  
 Box 2611W, G.P.O., Melbourne, C.I. Vic.  
**Federal Councillors:**  
 New South Wales—Bob Goodall, VK2ARG  
 Victoria—Alan Elliott, VK3AEI  
 Queensland—Arthur Wals, VK3AW  
 South Australia—Ron Richards, VK2KDO  
 Western Australia—Ron Hugo, VK6KW  
 Tasmania—J. J. Cruise, VK7IE  
 Papua-New Guinea—Russ Coleston, VK9XK  
**Fed. Contest Committee:** Alex Hubbard, VK-  
 XAX, Manager, Box 3714, Hobart, Tas.  
**QSL Bureau:** R. E. Jones, VK3RJ, 23 Landale  
 Street, Box Hill, E.I. Vic.  
**Awards Manager:** A. G. Weynton, VK3XU,  
 8 York Street, Bonchess, Vic.

## NEW SOUTH WALES

**President:** Dave Duff, VK2EO  
**Secretary:** Norm Beard, VK2ALJ, Box 1734,  
 G.P.O. Sydney  
**Meeting Night:** Fourth Friday of each month at  
 Science House, Gloucester Street Sydney  
**QSL Bureau:** Box 174, G.P.O., Sydney Frank  
 Hine, VK2QL, Manager, assisted by Allan  
 Smith, VK2AIR  
**Zone Correspondents:** North Coast and Table-  
 lands: Noel Hanson, VK2AHR, Ryan Ave.  
 West Kempsey; Hunter Branch: R. W. Rose,  
 VK2AGR, 17 Brooks St., West Wallend  
 Coalfields and Lakes: R. Hawkins, VK-  
 2JVL, 9 Comfort Ave., Cessnock; Western: W.  
 Stitt, VK2VW, "Camblough," Forbes, South  
 Coast; Central: E. M. F. W. 2, Belconn  
 St., Warrawong; Sth. Western: J. W. 2, Edge,  
 VK2AJO, Wallace St., Coolamon; Tamworth:  
 S. Smith, VK2APS, 30 Upper St., Tamworth.

## VICTORIA

**President:** D. A. Wardlaw, VK3ADJ  
**Secretary:** J. R. Lancaster, VK3JLW

## FEDERAL

### EXTENDED USE OF 50-54 Mc. BAND

Pursuant to a request from the W.I.A. for  
 the continued use of the band 50-54 Mc., the  
 Postmaster-General's Department has author-  
 ized the use of the band until 31st December  
 1960, conditional upon relinquishment thereof  
 by Amateur station licensees before that date  
 upon application if the band is  
 required by the Television Service.

### AMENDMENTS TO FEDERAL CONSTITUTION

The undermentioned amendments to the  
 Federal Constitution have been agreed to and  
 are published for information of all concerned.

- Clause Amendment**
- That the word after "two" in the fifth  
 line, the word "Ritha", be deleted.
  - That after the word "the" in the first line,  
 the word "Ritha" be deleted and the  
 word "Ritha" be inserted in lieu thereof.
  - That all after the word "additional" in  
 the second last line be deleted and the  
 following be inserted in lieu thereof:  
 "no any deliberative vote he may have  
 on behalf of his Division."
  - After the word "decisions" in the seventh  
 line, the words "within two months of  
 the conclusion of the Federal Convention"  
 be deleted.
  - That after the word "Divisions" in the  
 first line, the word "voting" be deleted  
 and after the word "carried" in the  
 second line be deleted.

## CONTEST CALENDAR

Compiled by W.I.A. Fed. Contest Com.

### ★

### ROSS HULL MEMORIAL

#### V.H.F. CONTEST:

Date: 0001 hours E.A.S.T., 1st Dec., 1959,  
 to 2359 hours E.A.S.T., 31st Jan.,  
 1960.  
 Rules: Elsewhere this issue.

#### NATIONAL FIELD DAY:

Proposed Date: 1600 hours E.A.S.T. Sat-  
 urday, 12th Feb., '60, to 1800 hours  
 E.A.S.T., Sunday, 14th Feb., '60.  
 Rules: To be published next issue.

## NOTES

**Administrative Secretary:** Mrs. May, 478  
 Victoria Parade, East Melbourne, C.I. Postal  
 address: P.O. Box 26, East Melbourne, C.I.  
**Meeting Night:** First Wednesday of each month  
 at the Radio Service, Royal Melbourne Tech-  
 nical College.  
**QSL Bureau:** Inwards and Outwards—W.I.A.,  
 Vic. Div. Box 36, East Melbourne, C.I.  
**Zone Correspondents:** Western: W. J. Kinsella,  
 VK3AKW, Magdala, Lubeck; South Western:  
 W. Wines, 45 Cranley St., Warrnambool, Far  
 North Western: M. Folie, VK3CZ, 101 Lemon  
 Ave., Mildura; Midland: R. Jonsson, VK-  
 2ND, Farnsworth St., Castlemaine, North  
 Eastern: T. K. Tennant, Park St., Tatura;  
 Eastern: W. G. Francis, VK3CZG, 30 Windsor  
 Ave., Moa.

## QUEENSLAND

**President:** John Pickles, VK4TP  
**Secretary:** W. J. Rafter, VK4PR, Box 6383,  
 G.P.O. Brisbane  
**Meeting Night:** Fourth Friday in each month at  
 the State Service Union Rooms, Elizabeth  
 Street, Brisbane  
**Divisional Sub-Editor:** D. B. Hughes, VK4ZBD,  
 60 Maysa Rd., Bowen Hills, Brisbane.  
**QSL Bureau:** Jack Files, VK4JF, Vanda St.,  
 Buranda  
**Zone Correspondents:** Maryborough: R. J.  
 Glasgow, VK4BG, 20 North St., Maryborough;  
 Townsville: R. K. Wilson, VK4RW, Hagan  
 St., Stuart, Townsville.

## U.S.S.R. CONTEST REPORT

On 14th and 15th March, 1959, the Central  
 Amateur Radio Club of the U.S.S.R. conducted  
 a Contest to celebrate the 100th birthday anni-  
 versary of the great Russian scientist, A. S.  
 Popov, whom the Russians claim to be the  
 inventor of radio.

Forty-eight countries took part in the con-  
 test and logs were received from twenty-three  
 countries as follows—

Country	Total Stations	Logs
U.S.S.R.	245	118
Poland	35	18
Switzerland	37	18
German People's Repub.	28	4
Austria	10	4
Denmark	9	3
Switzerland	9	3
Japan	14	3
Finland	11	3
Australia	3	3
Yugoslavia	12	3
France	27	3
New Zealand	120	1
United Kingdom	28	1
Columbia	4	1
Brazil	4	1
Holland	4	1
Czechoslovakia	9	1
Canada Canal Zone	1	1
Libya	1	1
Italy	43	1
Cuba	3	1
	745	190

Results of the distribution of points places  
 United Kingdom first with a total of 24  
 contacts for a total of 559 points; and Australia  
 second with 23 contacts for a total of 465  
 points. The two Australian operators' limited  
 submitted logs were VK3NO and VK3OV.

### AMATEUR OPERATORS' CERTIFICATES OF PROFICIENCY

Following is a list showing the names and  
 addresses of persons who qualified at the ex-  
 amination held on 14th July, 1959, for either  
 the Amateur Operator's Certificate of Pro-  
 ficiency or the Amateur Operators' Limited  
 Certificate of Proficiency (designated by an  
 asterisk).

It should be noted that the list does not in-  
 clude the names of persons who failed to  
 qualify for a full certificate but passed in the  
 subjects for the limited certificate.

**New South Wales**  
 P. B. Barry, 22 High Street, Cessnock.  
 G. F. Morris, 27 Hill Street, Gostford.

## SOUTH AUSTRALIA

**President:** B. W. Austin, VK3CA  
**Secretary:** J. C. Macleline, VK3JC, Box 1234K,  
 G.P.O., Adelaide. Telephone, M 7851  
**Meeting Night:** Second Tuesday of each month  
 at 17 Waymouth St., Adelaide  
**Divisional Sub-Editor:** W. W. Parsons, VK3PS,  
 19 Victoria Ave., Rose Park, S.A.  
**QSL Bureau:** G. Linton, VK3KR, 27 Belair Rd.,  
 West Mitcham, S.A. (Inwards & Outwards).

## WESTERN AUSTRALIA

**President:** L. Roeger, VK6HR  
**Secretary:** L. S. Eddington, VK6LS, Box N1004,  
 G.P.O., Perth  
**Meeting Night:** Third Tuesday of month at  
 Perth Tech. College Annex, Mounts Bay Rd.  
**Divisional Sub-Editor:** C. E. J. Sangster, VK6CS,  
 Windsor Hotel, South Perth  
**QSL Bureau:** Jim Rumble, VK6RU, Box 7319,  
 G.P.O., Perth, W.A. (Inwards and Outwards).

## TASMANIA

**President:** M. R. Jensen, VK7LJ  
**Secretary:** K. E. Millin, VK7KA, Box 371B,  
 G.P.O. Hobart  
**Meeting Night:** First Wednesday of each month  
 at W.I.A. Clubroom, 147 Liverpool St. Hobart  
**Divisional Sub-Editor:** I. Nichola, VK7ZE, 2  
 Cressy St., New Town.  
**QSL Bureau:** J. A. W. 2, VK7JB, 29 Willow-  
 den Ave., Lower Sandy Bay, Hobart.  
**Zone Correspondent:** North Western Zone—  
 Harry Fong, VK7IT, Northern Cross—Ray  
 Waldon.

## PAPUA—NEW GUINEA

**President:** D. Brown, VK8SB  
**Secretary:** Roy Taylor, VK8AU, P.O. Box 204,  
 Port Moresby  
**Meeting Night:** Last Wednesday in each month,  
 R.S.L. Reading Rooms, Ela Beach, Port Moresby.  
**QSL Bureau:** C/o P.O. Box 204, Port Moresby.

A. G. Giffen, "Tabar," Pinnacle Rd., Grenfell.  
 D. F. Evans, Ambulance Station, Gundagai.  
 J. L. B. Baker, 43 Melburn St., West Wyalong.  
 R. J. Bleakley, 80 New Canterbury Rd., Hur-  
 stons Park.  
 W. J. Guthrie, 78 Warrigone Ave., St. Ives.  
 C. A. Kiddle, 17 Pacific Highway, Killara.  
 N. A. Mickle, 19 Corona Ave., Roseville.  
 A. W. Sullivan, 65 Grantham St., Carlton.  
 S. E. Hancock, 15 Techna Parade, Sylvania.  
 D. W. Morris, Flat 2, 11 Stone Ave., Wahroonga.  
 G. P. Arthur, 37 Dudley Street, Balgowlah.  
 W. Hart, (Dr.), 4/85 Hurst St., Moaman.  
 D. R. Woodman, 17 Brooking Ave., Moaman.  
 W. J. Melville, 54 Travers St., Wagga Wagga.

## Victoria

C. K. Blake, Box 132, Hopetoun.  
 B. S. Baugh, "Murrumbidgee," Hawkesdale.  
 J. D. Anwin, 3 May Street, Deerpens, E.S.  
 B. Baker, 1 Adm. Street, Bendleigh.  
 J. N. Bradshaw, 51 Summerhill Rd., East  
 Preston.  
 S. E. Buswell, R.A.A.F., "Froggall," Canter-  
 bury, E.T.  
 W. F. Cody, 14 Lincoln Avenue, Oakleigh.  
 W. D. Dutton, 6 Dunbar Avenue, Sunshine.  
 R. S. Dwyer, 24 Oswestry Street, East Kew, E.S.  
 N. L. Jenkins, 19 Rangesview Grove, North  
 Balwyn, E.S.  
 G. P. Carwardine, 26 Nepean Highway, Elstern-  
 wick, W.V.  
 G. F. Scott, 22 Eastview Cres., East Bent-  
 leigh, S.E.15  
 D. R. Street, R.A.A.F., "Froggall," Canter-  
 bury, E.T.  
 R. A. Thacher, "No-Ray-All," Sandells Rd.,  
 Teonora.  
 K. B. Webster, 28 Mountain View Rd., Rosanna.  
 W. H. Erwin, 1 Kell's Ave., Heme Hill, Gea-  
 long.  
 S. E. Hernan, 54 Lancelles Street, Coburg.  
 D. A. Stewart, 2 Lansdowne St., East Mel-  
 bourne.  
 R. C. Whitaker, 56 Vincent St., Sandringham.  
 R. M. Kidgell, 308 Waverley Rd., Mt. Waverley.  
 V. H. Richardson, 70 Devon Rd., Pascoe Vale,  
 W.A.

## SILENT KEY

It is with deep regret that we  
 record the passing of—

VK2AHL—"Pop" Lewis.



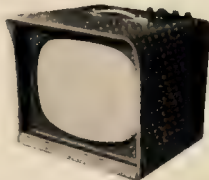
A Very Merry Xmas and a Happy New Year to all!

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S.11.  
A. J. Turner, 14 Airle Avenue, Armadale.  
K. A. McLachlan, 591 Heatherton Rd., Dan-  
geong.  
\*N. D. Bailey, R.A.A.F., "Froggall," Canter-  
bury, E.1.  
\*P. A. Elton, 23 Westworth Ave., Canterbury,  
E.7.

## Queensland

- C. C. Bunn, 86 Bell Street, Biloela.  
\*R. D. Sivyver, 26 Jack St., Kedron, Brisbane.  
D. B. Hughes, 88 Mayne Rd., Bowen Hills,  
Brisbane.

## South Austr

- \*W. M. Crawford, Box 161, Narracorte.  
\*A. L. Goldfinch, 638 Seaview Rd., Grange  
\*A. W. Anderson, 272 Fullarton Rd., Netherby,  
Mitcham.  
\*D. R. Shinkfield, 7 Derwent Ave., Restrevor.  
C. J. Tatum, 24 Short Road, Elizabeth.  
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loop.  
\*F J Lane, 72 Guildford Rd., Mt. Lawley.

## Tasmania

- \*J. H. Schurings, Kingston Beach.

## NEW SOUTH WALES

The monthly general meeting of the N.S.W. Division was held on Friday, 13rd October, 1961, at the Science House, Gloucester St., Sydney, where each month a different month such as the month of the meeting is held, and at which was cordially invite visitors and members who may be visiting Sydney. This month the meeting was a special affair and took the form of an "Old Timers' Night," which was very well attended by some 30 old timers and 60 members. An old timer, by the way, is one who has had his license in excess of 25 years.

The meeting was opened by the Divisional President, Dave ZEO at 7:45 p.m. who welcomed the gathering, which included visitors, ZL3AWM and VK3CX.

Dave then called Bill HZ, a Past Federal President, to take the chair and introduce the Old Timers. Those called on to reminisce were: Bill HZ, who was the first foreman of this Division; Jack Pike (JIP), probably one of the most active among the more elderly Amateurs; Basil Cooke, and Joe Reed (JRI). The latter two were from Illinois which has curtailed his activities and another which has curtailed his activities at a time when this Division was in its infancy. The latter two enthusiasts, who laid the solid foundation on which this Division of ours rests. A considerable amount of gear, some dating back to the late 1800's, was displayed, and the boys of interest of the members, and the boys described the manner in which this gear was used, possibly one of the most interesting of the exhibits was a detector which Jack JIP constructed in 1910.

Bill Moore then handed the chair to Lionel Swain (2CS), another Old Timer of some 30 odd years Amateur life, who produced his first signal on the air in 1934, and who had wave bands of some 40 metres. Lionel dealt at length with early activities in Newcastle, and as with all other speakers, spoke of the early days of his late friend and fellow Amateur, Charles MacLurean (1CMM), who passed on some few years ago, and whose console he still keeps close to his heart. He then introduced the Divisional station at 2WL. Lionel introduced the class in the person of Herrie Laporte (2HL), 2 Barlow (2BQ), who made the first contact to the United States (2UJ), and finally our old friend Lionel Todd (2LS). All spoke of the great strides made this last few years in the treatment of the Lions' words that we must of necessity progress in our transmission methods to enable us to operate in bands which may be reduced to a few kHz. We must pursue our hobby to its fullest extent.

Dave 2EO then resumed the chair and conducted the business side of the monthly meeting. Following the reading of the minutes of the previous meeting, 14 new members were admitted to the Division. The main business of the meeting was the discussion on a proposition for the Division to acquire office premises adjacent to the city which will prove to be an asset to the Division, and will provide a meeting place for all members, to enable

many of the smaller meetings to be held there and to house the library and other facilities for members. Among those who spoke on the proposition were VKs 2YB, 2AGW, 3GW, 2AGH and 2CS, who all stressed the need for such an investment by the Division. A motion was passed authorizing the Council to proceed with the matter as soon as suitable premises are found.

The meeting closed at 10.30 p.m. and all adjourned for coffee and the ragchew which was to be expected on such an occasion, and it was evident that many old associations and friendships were being renewed.

The Sunday broadcast on 25/10/79 was conducted by George 2CB and was commenced with an excellent relay from Lawson in the Blue Mountains on the occasion of the Blue Mountains Section Convention. Max 2OT opened the relay from the Blue Mountains. The newspaper of 23rd March, 1910, which recorded a meeting of Amateurs who formed an association which later became the Institute. With this and other information in our hands, we can lay the claim to being the first Amateur organisation to be formed in the world, and one which will be 50 years of age in the coming months.

Our Divisional Convention, to be held at the home of 2W1, Quarry Road, Dural, on 30/7/60, will emphasize our 50 years of age. The evening will be a most enjoyable affair, and will be a full day of interest for all with plenty of good prizes, excellent displays of gear for enthusiasts in v.h.f., W.C.E.N., a.w.l. and a.m. bands. The evening will be a most excellent evening show is being arranged with further interesting prizes including a treasure chest, and a non-stop form of entertainment. Registration will commence at 1 p.m. bring your own food and drink. There will be a raffle at 2 p.m. when the Convention will be officially opened by the Divisional President. Registration will commence at 1 p.m. bring your own food and drink. There will be a raffle at 2 p.m. when the Convention will be officially opened by the Divisional President. There will be some of the good things on the free list. Registration will be inexpensive, so bring your wives, girl friends, kiddies and all your relatives. It will be a bumper success and a pleasant surroundings.

Slow Morse transmissions are conducted by a panel of operators each night of the week on 3535 kc. at 7.30 to 8 p.m. These transmissions, under the call of SAWI are creating a large amount of interest and are invaluable to those who are endeavouring to get their A.O.C.F. in the future. Our thanks go to the operators who are doing such a sterling service in making this scheme possible. We would like to hear from all participants and get their views on the matter and would be pleased to receive any suggestions to improve the service.

We have noticed recently that some of the many clubs in the State are not replying to the call-back to clubs following the broadcast. This is regrettable. We would like to require the information you could give us to include in these notes each month, and to give YOUR club that publicity which is the life blood of any new organization. So, we would suggest your activities be relayed to us by this means, apart from depending on all listening, and many other than Amateurs do so regularly, that your clubs are visible bodies assisting Amateur Radio by providing a regular meeting place for fellows to get to know each other, exchange local news, and information by all to all is the most valuable feature of our hobby.

The Albany Club recently held an Open Night when members brought along their parents and friends to see the progress made in a very new club. Albany consists of a substantial amount of young fellows who are being instructed by several older Amateurs in A.O.C. standard by means of the W.I.A. Correspondence Course, and although in temporary recess owing to the present school exams, is making excellent progress and we feel confident that the present recess in the future. Practical work for these students is provided by the construction of the club's equipment.

## BLUE MOUNTAINS SECTION CONVENTION

The Blue Mountains Section Convention was held at Lawson on 25th October in the lovely setting of the Olympic Pool. Despite the inclement weather, which had been experienced in the district in the previous days, the day was very fine and warm. Fifty registrations were made, including many who made the trip to the mountains from Sydney and other parts.

The Committee organised a Convention which was an unqualified success and augurs well for the future activities of the Section. A number of competitions were held during the day and the lucky prize winners were as follows:

## OBITUARY

ALBERT W. ("TOP") LEWIS, VKZANL

With regret I have to record the passing of Pop Lewis, VKSAHL, on November 1, 1952, at the age of 82 years.

On the 26 January, 1957, Pop (he was never called anything else) came on the air for the first time with an ATS-Armed Forces of the South Atlantic Service of Honour of being his first contact. Uetli four months ago, he was extremely active, having many thousands of contacts on all continents. He had the power of a man to whom he has not worked and it was only his limited power and crystal control that prevented mass contacts from afar although he was not a true telepath. Unfortunately, Pop was not in good health, trouble dating back to World War I, at which time he was a participant, and as a result he was a weak man physically, but he took it in his stride and was seen back talking to his friends.

Four months ago Pop was warned by his Dealer to keep off the air so every day he would just listen in to the "Goen Show" of which he was a member. On 29th July he broke into the group saying he was still not the best—that was my 1,330th and last contact with him.



For many years he worked for the Metropolitan Water Board and not long after he resigned from there he unfortunately lost his eyesight due to a cataract operation. Receiving his Amateur ticket certainly gave him new life and interest and except towards the end, he had exceptional memory—in fact there were quite a few that did not know of his affliction nor the fact that he was also deaf in one ear, and suffered from arthritis.

The Buncecrone of Burraneer, as he called himself, was always willing to give a helping hand and friendly advice and as one of the official arm twisters, he plugged the I.T.U. fund every time he came on. One slogan I recall was, "Don't be a Yid, give a Quid."

Sponsored and helped by the following:  
2ADB, 2FG, 2EN, 2VC, 2BQ, 2XL and 2AZE.  
Pop put out an excellent signal. Having  
met him personally on several occasions  
I was struck by his quiet demeanour, ex-  
cellent spirits and sense of humour. Kestle,  
his XYL, gave him great support and en-  
couragement and attended to his ORNLX.

Pop is survived by Essie, his parents, and six children: Keith, Buck, June, Melba, Elaine and Gwen.

Vale, Pop. A gentleman and an Amateur.  
—VKZQR

**Hidden Transmitter Hunt.** Bob 20A, 1st; G. Nixon-Smith 2AGN, and N. Wilde 2DR, defeated for 2nd place.  
**Blindfold Tx Hunt.** 1AGM, 1st; Ladies' Blindfold Tx Hunt Mrs. 2RE, and the junior division of the hunt was won by Lesley, daughter of 2ZCZ.  
**7 No. Scramble:** Jim 2PM, 28 contacts, 1st; 2AWZ, 25 contacts, 2nd.  
**144 Mc. Scramble:** 1AWZ, 1st; 2ZBK, 2nd.  
 Visitor travelling longest distance: 1ZCA.

#### QZ DE EMERGENCY

Cyclonic disturbances have been prevalent in the State during the last few weeks, and on one such occasion, on 30/10/59, the cyclone raged over a large part of N.S.W. and severe flooding and damage was sustained in many areas. Possibly the hardest hit was the South Coast and communications failed between Bega and Sydney.

Contact was made with Sydney by 2AWW from Bega, with the assistance of 2ACP and 2ANB in the morning and later 2ASZ came on and provided a link with the city.

The N.S.W. Divisional Emergency Station 3W1 at Dural was opened before noon and was manned by 2MP, 2EO and 2AAS who maintained communication with all areas until the emergency had subsided at 6.30 p.m.

The value of such an Emergency Network as W.L.C.E.N. must be evident to all, and with the forecasts which we are receiving, how possible further such weather ahead of us in November, we strongly urge all to take their part in W.L.C.E.N. exercises which are conducted from 3W1. The Scouts' motto of "Be Prepared" is one we should all follow at all times as we never know when our services will be needed. In case of emergency, first make contact with a Sydney station who will then be able to ring the W.L.C.E.N. Co-ordinator at YL 445 and steps will be taken immediately to establish communications from 3W1.

The latest activities of W.L.C.E.N. are broadcast in the Sunday broadcast and we ask that Bob and his assistant, Max 2MP, be given the support which they deserve in their task of organising an efficient Emergency Network in this State.

#### HUNTER BRANCH

The usual monthly meeting of your Branch was held on 9th October when the following guests attended an informal meeting. 2SP, 2XT, 2ZDF, 2ZDL, 2ZMG, 2AFA, 2AKX, 2AOR, 2AQR, and associates. Sutcliffe, Bailey, Gray, Frye and Slobs. Apologies were received from 2CS, 2ZL and 2XG. The chair was taken by V.P. Bob as President Lionel was attending a farewell to his predecessor. A little business was done and an expression of appreciation of the excellent work done by Secretary Gordon in arranging the Annual Dinner and Blackball Field Day. Stuart gave a short discourse on his activities, whilst in VKZ, on 2.4.51; opportunity was also taken to wish Bill 2XT all the best to himself, XYL and harmonic on his two month trip overseas.

The meeting then journeyed to another room where several films were projected by Keith 2AKX, as operator. Quite an interesting show, despite the fact that the projector made several times and a lamp gave up its ghost.

The final meeting for the year will be something similar to last year when there will be coffee and eats.

Several birthdays were celebrated in Oct: Ivan 2AIM, George 2ADZ and Bill 2ZL suddenly found that they were one year older. Ivan was up for the 'do' and visited the shacks of 2ZL and 2AQR. Also at 2ZL were 2AXH, 2AAY and, of course, the conductors of 2W1 broadcast used Bill 2ATZ to scatter the doings of the Dinner and Field Day. Whilst on that subject, I forgot to mention that Anthony Mullens was runner-up to Secretary Gordon in the contest to Quiz at the Dinner.

Those who know Harold 2AWH will be interested that he leaves Melbourne for the Antarctic on December 3. Sunspot activity and stormy conditions have made conditions quite bad on 40 these days, so news are scarce. Depressing news has just been received of the passing of Pop 2AHL, and I hope to have the honour of writing an obituary in this issue. Don't forget the next meeting at Tighe's Hall on December 11 at 8 p.m., and to those who will not be able to make it I extend the Season's Greetings—2AQR.

#### CENTRAL COAST ZONE

The weekly net continues every Monday at 8.30 p.m. 2603 Wic. On some nights as many as ten stations have joined in. It is usually conducted by Reg. 2AF, operating under the Gosford Radio Club call, 2AFY. Reg is away from home at times and I usually take him to the Riverina and VKZ. His job is helping to decide which nag comes first.

The recent visit to Channel 2, ABERN, through the kindness of 2AGS, was eye-opening in many ways than one. We saw two live shows being produced and were amazed by the preparation and planning and the activities behind the scenes. The technical gear seen was quite remarkable.

Jack 2FJ is very active on 80 mc phone. He lives in the wilds of Saratoga. Fred 2ALA is troubled by t.v. and has nearly finished his fourth re-build in six months. Rex 2YA arranged the recent Gosford Radio Club's exhibit at the Gosford High School Science Exhibition. Unfortunately, severe QRM prevented a link-up between pupils of Gosford and Inverell and Coffs Harbour High Schools. 2ADT, 2OR and 2KS were heard, but QRP this and did not wic through.  
 2AUF misses his 30 mc quad, recently blown down in the gale. 2AXH still heard on 30 mc phone and sounds as fit as ever. Major 2HU is re-modelling his shack and building a more compact in George 2ZDC, from Wyong. is reported to have gone West and finished up in VKZ 2ASA not heard lately, due to holidays and too much tv business. 2ND active on 60 mc phone; uses a Command tx with plate mod. Harry 2LX active on 30 and 10 mc phone.

Associates Ken Harriman and Frank Jarvis on their terms have a private 500 ohm line erected specially for Morse code practice, and too much tv business. 2ND active on 60 mc phone; believes in extending for miles through the orange orchards. A.O.C.P. aspirants continue to come forward six members sat for the last exam and we wish them well.

2AN, your scribe, has recovered from a bout of it. The magic touch was provided by a high-pass filter installed on the neighbour's new set. The distance between the antennas was 25 feet. One station, who claimed that an earlier model tv showed perfect rejection of 80 mc signals, whereas the new model did not. S.s.b. activity on 30 and 40 mc continues.

## VICTORIA

In accordance with usual custom, the December general meeting of the Victorian Division, to be held at the Radio Theatre, Royal Melbourne Technical College, on Wednesday, 2nd December, will be a social and a children's night. So bring along your XYLs and harmonicas, YLs or friends, and make it a bumper evening.

#### NATIONAL FIELD DAY CONTEST

The Divisional Council has decided to award a perpetual trophy for competition between divisions and affiliated clubs of the Victorian Division in the N.F.D. Contest.

Each competing zone or club to enter a team in the N.F.D. must forward the claimed score, being the sum of both the s.w. and phone scores, to the Division Secretary by the same date as entries are due with the Contest Committee. These scores will be confirmed with the Contest Committee.

The winner will hold the trophy for a period of one year.

#### 50 METRE TX HUNT

The Victorian Division's 50 mts Tx Hunt was held on 24th October. It attracted many hunters, and indeed the visitors who proceeded to the site with the aid of maps, a good run for their feet. The start was at 10.00 a.m. and just off Waverley Road, and just to the east of the Mount View Reservoir, with a glorious outlook to the Dandenongs, was 18 miles airline from the starting point at the north end of Swanston Street, and about 20 miles by road, and it took the winner, Tom 3AQG, just 55 minutes to find the tx. Surely 3ALY was only a couple of minutes behind.

The "invisible" aerial was supported right over the access road on overhanging tree branches, and the off-centre feeder run to the tx which was hidden in a clump of grass in an adjoining paddock.

The hunt was not altogether free of incidents. One hunter, after a long search, before he got started and had to open his envelope. Then, just after the tx had been found, the battery began to fail, resulting in the searchers waiting for the battery to be slowing almost to a stop. Another battery was hastily substituted and the hunters still in the area were able to follow the signal in without further trouble.

Last to arrive was Publications Committee-man, 3GM, whose QTH happened to be within the area of the hunt. He was a bit late, but was having some trouble from a harmonic from 50 so decided to join in the search.

In the ragchew after the hunt, another member, hunt 2A, suggested that the hunt was much favoured. The last marathon, put on two years ago by the Geelong boys, was greatly enjoyed, and the Melbourne hunters would like to state another early in the new year, in appreciation. We hope that the Geelong boys and all who possibly can will join in. Details will be announced later.

In the meantime, the next hunt, the last for this year, will be held on 8th December, when Tom 3AQG will be hiding the tx—30J.

#### NORTH EASTERN ZONE

Seems like the boys around here have the line-up bug with Sid 3CI lining up his xtal filter on his tx; Bruce 3AAG taking response curves of the 20 and 40 mc filters; Peter 3AFY building a xtal filter for a.s.b. in the 5 Mc. band. Now I can tell you that this really works, having had a demonstration, so Peter has been asked in building a a.s.b. exciter should contact Peter. Seems like we have a new member in the zone with Alec 3FG at Wangaratta. Now Alec, I hope you attended the Convention so we could welcome you personally.

Seems like our old friend, Doug 3IT is galavanning around again, this time he is up at Darwin, but at present I cannot tell you what call sign he will be operating under.

I have an ardent reader of the notes in VK4 land who still likes to know what is going on in the zone. However, I can tell you Les does not like being mistaken for a 20 mc. Beyer is right, Les, for answering a DX call. Must admit it was a very pleasant QSO.

Alec 3AT has just completed building a radioelectric radiogram; XYL out ordering recordings for same, haven't heard if the results are good or bad.

Bruce 2BM (Quambob) and Ken 3KR (Wendy) Bruce 2AGG have been busy with working tools to do odd jobs around the place. Bruce has just finished leave and is back at work again.

Lot of talk about getting on the air from the Z calls, but up to date very little action. Did you know, fellows, that there are stalwarts of six mc around in 3CI and 3AFY with 3AGG

# Greetings

## TO WISH ALL READERS AND FELLOW SCRIBES

the following:—

- Good Health to You and Yours,
- Happiness for ditto.
- Good Fortune ditto ditto.

If you have (a) and (b), (c) is a pushover.

★ ★

## FOR 1960 — A TOAST

"Here's to double spacing and wider margins on all your copy, and be early or else . . ."

Sub-Editors Mk. I, II, III, and IV.





membering their last argument regarding the merits of c.w. and phone, gave him look for look, with Keith finishing up slightly redder in the face than the hydrant.

Talking to the President of the VKS Division, Brian SCA, whom you will remember has just returned from his annual inspection and examination of the smoke signalers' club of the Wombi-Wombi tribe in the far, far, North, he told me that he was not feeling his best whilst away and was glad when he could come back to our fair city. The chief of the Wombi-Wombi tribe, when interviewed by the VKS Divisional scribe, said in tones more of sorrow than in anger, "Big city chief, him no good, him weak in stomach, him no like witchy grubs, him plummy washout!"

Noticed Jack SSB in the audience at the meeting and appeared to be enjoying himself. Active these days on 380 Mc., he is still his cheery and viable self, and as I left the meeting he was entertaining a large group of the younger members with tales of the "good old days," and believe me there is no one in VKS who knows more of those days than he does, but look out for him, he is the biggest leg-puller this side of the black stump.

There is no doubt about it, it is either a feast or a famine. Two months silence from the S.E. gang, and then Claude SCA arrives. Col SCA sends me a letter, and to top it all, Stuart SMS comes along to the meeting. Information obtained from them all should get the wolf away from the door for this month at least, to say nothing of keeping my palawakey the editor happy. He was getting quite worried because I was writing almost nothing each month. Put that red pencil down at once, Sir!

Claude SCA is due for annual holidays as soon as he returns to the Mount from the big city, so possibly he will be heard on 40 at odd times during the day. He has a big constructional programme on for the shack at the moment, so possibly he will concentrate on that instead.

Tom STL is back on 40 with telephony after quite a break and seems to be getting quite a kick out of his many contacts. Will be looking for you OM. Stuart SMS has his new tx on the air and is quite satisfied with results. Handwired 80-lb. with a Goloco exciter, it finishes up with an 813 and has plenty of wallop.

Leo SGJ is still getting among the W signals on 30 telephony and seems to have no trouble in contacting them whenever he wants to. Erg SKU is another one who is getting his share of contacts on 40 and 20 c.w., in fact it could be said that he is getting more than his share, every time I call on the band they all seem to go back to Erg. Dave SAW, who is located at Penola, has a xtal controlled rx and tx on 288 Mc., and has also been heard on 40 and 80. He has built a one-eyed monster but apparently this has not interfered with his Amateur activity. Don SZBG has still to make his appearance on the air, but if rumour is to be believed, it will not be long now.

Back in what has come to be known as the "good old days," when c.w. was a lot more popular than it is today, there used to be a type of pest who rather fancied himself as an expert on the key, and no matter with whom he would be in contact, he would tear along at about 50 w.p.m., even though it was painfully obvious that the chap at the other end was not able to follow him. Now that s.a.b., d.a.b., r.a.v.p., a.w.k., to say nothing of several unprintable other forms of transmissions, are rapidly coming to the fore, a new type of pest has arrived. To wit, the chap who will persist in coming back on s.a.b., d.a.b., etc., even though the other end has indicated quite clearly that he is in difficulties. The c.w. pest eventually died out when he found this contact became harder and harder to get, so I suppose time will take care of this new problem.

Frank SMZ was noticed at the general meeting and looked fighting fit. He was not too well a little while ago, but seems to have shaken it off now. He tells me that he is taking it easy these days with a little radio and a little T.V. Hope it remains that way. OM, don't make it a no radio but lots of T.V. policy, your cheery voice would be missed.

By a strange co-incidence I was listening on 31 Mc. the other day, and by another strange co-incidence I heard Albol ELQ and Lionel ELB in contact. By another strange co-incidence they were sitting together at the meeting, in fact it would be a strange co-incidence if these two Radio twins were ever seen apart.

Luke SLI is on the air with a brand new tx, a pair of 6140's in the final too, and he is

tickled pink with the results. Had a little bit of trouble at first with some missing drive, but when he put on his Sherlock Holmes deer-stalker cap and took out his outsize magnifying glass, it was only a matter of time.

The news from Crystal Brook this month is rather ominous. Bert SSB is being attacked with the T.V. fever. Pete SFM is playing with T.V. sets, and the worst news of all is to the effect that Bob HBC is busy constructing T.V. aerials by the dozens. The Crystal Brook bird world has voted him as their number one friend due to the number of perches he is providing.

Talking to Al SMF at the meeting and he said that he was active on 288 Mc. With the idea of giving his harmonica a chance of seeing just what makes Amateur Radio tick. From all reports they are very much interested and look like being recruits to the grand old hobby.

Bernie SWC, who is the prime mover in any activity from the Woormera Radio Club is now on s.a.b. or as Comp SBF has been heard to say, "Graduated to the ranks of the men in blue." My remark is of course unprintable.

Did not see Tom STL whilst he was down in the big city recently, this is not surprising I suppose, when you consider that he was down on "departmental business." That always intrigues me, makes me think of M.I. disguises, heavily cloaked strangers and plenty of hush-hush, to say nothing of furtive looks and all that goes with espionage. To keep the record clean, I happen to know that he was down on an office management course, so if any reader is seeking an efficient office manager they will know to keep away from Tom.

Fred SBA has been decidedly busy this month, but not with radio, no sir, busy with the rotary hoe. My spies tell me that he has been handing out some very nice mulberries to various people, and it has been suggested that I would have liked to participate in the said handout. I deny this, because I always have trouble with mulberries, they fly to my stomach! Hughie SBC has of course been on holidays and has not yet settled down to the daily grind. He really should not be in these notes because he is better known as a v.h.f. man, however, I sometimes hear him on 40, in fact I once worked him on that band, and that fact lets him sneak in.

Harry SKW is among the missing this month, but if I remember anything about him he is

### TYPE 65

General purpose with low frequency response suitable for lively halls.

### TYPE 66

P.A. use where less low frequencies are required than the 65 with a lift in the middle frequency to ensure high output without feedback.

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Communication use, has a further reduction in low frequencies than the 66 and increase in high frequencies for intelligibility through noise.

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## HAMADS

1/- per line, minimum 3/-.  
Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 15th of the month, and remittance must accompany advertisement. Calculation of cost is based on 10 words of six words a line. Dealer advertisements not accepted in this column.

**FOR SALE:** Pye V.H.F. Mobile Xmitter, crystal controlled, 156-172 Mc., F.M., complete with 829B and vibrator supply £84. 17 Jasper St., Noble Park, Vic.

**FOR SALE:** 2m. Beam, 4 over 4 over 4, copper elements, pipe frame on 40 ft. of 1 inch pipe mast, with guys and 40 ft. co-ax, £17/10/8. R. Neal, 11 Xaxier Street, North Essendon, Vic.

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**SELL:** BC348 extensively modified, 12L/D/C, 50 Kc. Q5er, S Meter 0-500 A.F., extra audio, 6A3J r.f.s., sep. r.f. and a.f. top performer, £35 plus freight. 20-15 xtal conv., 6AG5, 6J8, £7. L. Hoey, M.S. 74, Clifton, Qld.

**SELL:** Command Trans. 7-9 Mc., £4. Gelo V.F.O. 4/101 unused, £6. Tunar Battery Charger, 6v-2a, 4-2v. at la. £4. C.R.O. for modulation tests, 24 in. with a.c. sweep, £5. 5B1 C.R.O. tube, 15/-, 5B2 Transmitter, 12v., £9. Goldring Var. Reluc. Pick-up, No. 500, unused, £2. VCR139A C.R.O. tube, £1. Command Revers, 3-6 Mc. £4; 6-9 Mc. £4. Apply W. Stevenson, 11a Maud St., Ormond, Vic.

**WANTED:** AMB300 Receiver in good condition. Reply D. Sides, Muttama, N.S.W.

**WANTED:** Command Receiver, 3-6 Mc. H. B. Dobbins, 42 Walnut Avenue, Mil-dura, Vic.

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*Greetings*



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Christmas and an enjoyable and prosperous  
New Year.



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